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No. 4.

## THE VALUE OF INTRAVENOUS INJECTIONS OF ANTIMONY IN THE TREATMENT OF CHRONIC SECONDARY CHANCROID ULCERATION.

By W. L. Potter, M.D. (Melb.),

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In tropical countries, extensive secondary ulceration in the inguinal regions, following primary infection by the bacillus of Ducrey, is not very uncommon. Some such cases, so severe in character as to necessitate them being invalided home, occurred amongst Australian soldiers on active service in Egypt. These cases had proved quite unresponsive to the various forms of treatment adopted, and during many months almost every conceivable form had been tried. Intravenous injections of potassium-antimony-tartrate, as recommended by Mr. J. R. McDonagh,<sup>1</sup> were then administered, and resulted in rapid and complete healing.

### Case 1.

The patient came under observation in November, 1915, with a large serpiginous ulcer in the right inguinal region, which had followed chaneroid infection in Egypt. Shortly after the genital lesion had healed, a large inguinal abscess suddenly developed on the right side, and was opened; the wound did not heal, but steadily extended, and the soldier was invalided to Australia. When seen in November there was a large area of serpiginous ulceration, extending from the left side of the pubes to the right anterior superior spine; the phagædenic edge, thick, ragged and undermined, was surrounded by a marked inflammatory areola, and the surface exuded much offensive sero-pus; an area of fairly good scar tissue towards the pubes separated the ulcer into two parts, and, from the healing edges represented by this scar tissue, new skin had grown in over part of the ulcerated surface. Beneath this new skin, foci of supuration had repeatedly formed and burst through, causing continued destruction.

Now, after seven months, the ulcer was at its worst—a typical *ulcus molle serpiginosum*.

He had been on mercurial by the mouth for six months, and had had during the fifth month by intra-

venous injection neo-salvarsan 0.45 gramme, salvarsan 0.3 gramme, and galy 1.5 grammes. An attempt was made to excise the ulcer on one occasion, and it had later on been curetted. The general condition of the man was fair, but he was much disheartened and depressed.

The history was reviewed, and neither that, nor physical examination, nor the Wassermann reaction, taken at a comparatively early period in the treatment, furnished any evidence in favour of syphilis, nor could spirochaetes be found in the lesion; but the possibility of evidence having been present at an earlier period of the disease, and justifying the institution of anti-syphilitic treatment on the voyage from Egypt, was considered, and mercurial treatment continued with short intermissions for three months. During the first two months of this period mercury alone was given, by daily inunction and *pulv. hydrarg. c. crêta* by mouth; during the third month, in addition to above, iodide and arsenic were given, and neosalvarsan (1.5 grammes) intravenously.

The condition did not improve. Iodide and arsenic and *syrr. eastonii* were now given for a further month, and at the end of that time the ulcer was as bad as it had ever been.

During these last four months many forms of local treatment had been persisted in—antiseptic applications, peroxide washes, irrigations with chlorinated solutions. For periods the ulcer was kept perfectly dry, and for periods immersed twice daily in hip baths; but there was no improvement—a feeble attempt at healing on one side, and a steady, slow extension at the ulcerating edge.

At the end of the four months, and more than eleven months from its first appearance, ionization of the ulcer with zinc sulphate was commenced, and was carried out daily on the larger ulcerated area. Immediately after ionization the surface was painted with camph-phenol (a mixture of carbolic acid and camphor), and iodoform and boracic acid dusted on. At the end of five weeks there was somewhat less discharge from the surface, but otherwise there was no improvement. The smaller ulcerated area had not been ionized, but had been painted with camph-phenol and dusted as above; it was neither better nor worse than the ionized part.

The condition had now persisted and progressed for

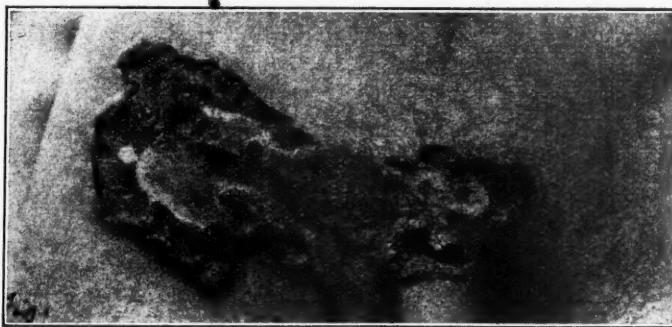


Figure 1.

Case 1.—Photograph of a typical *ulcus molle serpiginosum*, twelve and a half months after its first appearance.

<sup>1</sup> "The Biology and Treatment of Venereal Disease," J. R. McDonagh, F.R.C.S.



twelve and a half months. Ionization was continued, and intravenous injections of potassium antimony tartrate were commenced, 0.015 gm. of the latter in fifty cubic centimetres of sterile water, and four days later 0.03 gm. At the end of six days from the first injection the ulcer looked better than it had done for

months, and there was no need to anaesthetize the spreading edge before ionization, which had always been necessary till that time, on account of the excessive pain the process caused. The injections were continued at intervals of

four days; two days after the third injection (0.03 gm.), the ulcer showed very remarkable improvement—the ragged, undermined, thickened edge was replaced by a clean, healthy, thin margin, on a level with the ulcer. The reddish purple inflammatory areola had disappeared; there was no discharge from the surface; delicate new epithelium was seen growing in, in many places, over an apparently healthy, granulating surface; all pain had ceased.

The dose was gradually increased to 0.06 gm. in the usual amount of water (50 c.cm.), and in five weeks from the first injection, after a total of nine injections at four-day intervals, the ulcer had entirely healed.

With the institution of the intravenous injections, iodides were continued, and steadily increased to 3.6 gms. three times daily, and then the dose correspondingly diminished.

No difference could be detected in the rate of healing between the larger ulcer that was ionized and the smaller ulcer that was not ionized.

There was slight headache after some of the intravenous injections, but no severe symptoms.

The sudden dramatic improvement following the third injection of tartar emetic, after the ulcer had proved resistant to other forms of treatment for so many months, was very astonishing.

The ulcer never broke down again; the soldier was under observation for several months afterwards, and has now been back at the front for many months.

#### Case 2.

This patient came under observation on March 27, 1916, with an ulcer immediately over the symphysis pubis. It had followed chaneroid infection in Egypt nine months previously; the chaneroid had been followed by an inguinal abscess. This suppurative condition had spread down into the pubic region, and had been followed by ulceration. When first seen this ulcer was nearly nine months old, about the size and

shape of a florin, with crescentic extremities passing down on either side, through the genito-crural folds, towards the perineum. In the main portion of the ulcer the base was fleshy and coarsely granular, the edges a little undermined in places, and there was little or no discharge. But in the deep crescentic

extremities the edge was soft and much undermined, and the base discharging foul sero-pus very freely; and the parts were exceedingly tender. Three small ulcers had developed in the vicinity, apparently from infection of

tissues by this pus—one on the thigh, one on the scrotum, and one in the perineum.

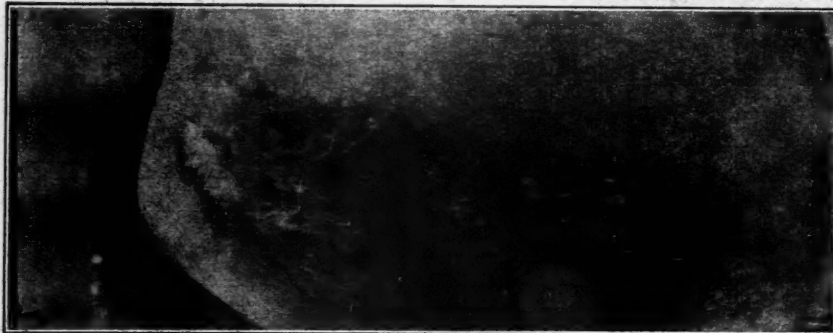


Figure II.  
Case 1.—Photograph taken five weeks later than Figure I., during which time nine injections of tartar emetic were given; complete healing.



Figure III.  
Case 2.—A photograph of the ulcer at its worst, nine months after its first appearance.

There had been continuous local and general treatment for nine months, but the condition had steadily

progressed, so that it was now three times the size it had been three months earlier.

Ionization daily with zinc sulphate was begun at once, and iodide given by mouth. In twelve days the main



Figure IV.  
Case 2 (from a sketch).—Main portion of ulcer healed after twelve days' ionization, but deep extremities not affected; ten months after first appearance.



body of the ulcer had completely healed, but the deep crescentic extremities and small ulcers in the vicinity showed no improvement.

Ionization was continued to these unhealed areas



Figure V.  
Case 2.—Photograph showing complete healing of ulcer, taken twenty-five days later than Figure IV., after eight injections of antimony.

of ulceration for a further period of nine days, i.e., a total of twenty-one days, and iodide had now reached nine grammes daily, but there was no improvement.

Intra-venous injections of potassium antimony tartrate were then given every four days, commencing with 0.015 gm., and ionization and iodide continued. There was improvement almost at once. In twenty-five days—after eight injections had been given—the deep extremities of the original ulcer had entirely healed up, and the adjacent small ulcer on the thigh also. After two more injections the small ulcers of the scrotum and perineum had healed. Two more intravenous injections were then given, in order to abort any lesion that might possibly be developing.

There was a little vomiting and moderately severe headache after the first injection, which was of 0.015 gramme, but no symptoms after subsequent injections, the largest of which was 0.06 gramme. This was the only occasion on which vomiting occurred in the three cases treated with tartar emetic.

It was two months from the time he came under observation till the lesion had completely healed.

There was the possibility of an earlier syphilitic



Figure VI.  
Case 3 (from a sketch).—Ulcer four and a half months after first appearance.

infection in this patient, but there was no suggestion of syphilis in the condition described here.

He remained under observation for three months without recurrence, and then returned to the front. He was killed at Bullecourt twelve months later.

### Case 3.

This patient first came under observation on August 7, 1916, with an ulcer in the right inguinal region. There had been chancroid infection in Egypt, an in-

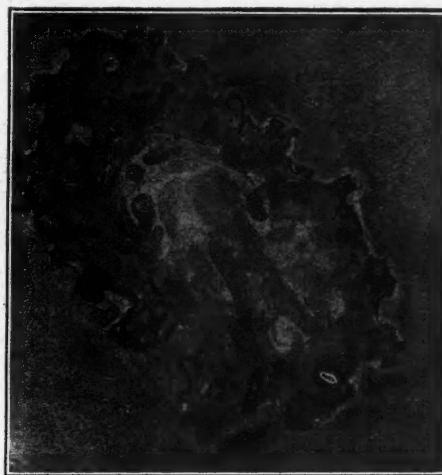


Figure VII.

Case 3 (from a sketch).—Appearance of ulcer shown in Figure VI. four days after very light curettage and removal of overlying skin, showing site of original ulcer surrounded by new ulceration from cut skin-edge.

guinal abscess had rapidly developed and had been followed by an ulcer, which had been present for four and a half months. It was about 5 cm.  $\times$  2.5 cm. in extent, and was partly covered with skin, which was not adherent to the underlying parts. The skin was riddled with holes, through which escaped a small amount of sero-pus, and its condition suggested that

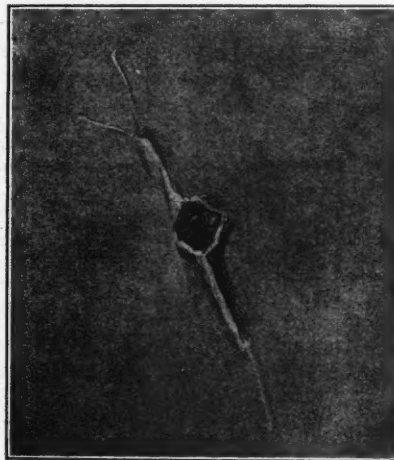


Figure VIII.

Case 3 (from a sketch).—Ulcer shown in Figure VII. almost completely healed after five injections of tartar emetic.

the danger of freely opening or excising in this condition had been appreciated by those who had seen it at an earlier stage.

This loose skin was snipped away and the base exposed, covered with pale, weak, granulation tissue.

This was lightly curetted. Ordinary antiseptic treatment was carried out, but four days later it had spread to an alarming extent; the ulcer had now increased to twice its original size, with deeply undermined, thickened, oedematous edges breaking down throughout the circumference. There was great tenderness and considerable pain.

Intravenous injections of tartar emetic were at once commenced, and potassium iodide given by mouth. There was immediate improvement, and after six injections the tartar emetic was discontinued. In six weeks from the first injection the ulcer had completely healed.

Ionization was not carried out in this case.

There was, as a rule, slight headache, after the injections.

No further breaking down occurred, and the man is now at the front again.

#### Case 4.

The patient came under observation on November 16, 1915, with an ulcer in the right inguinal region. There had been chaneroid infection in Egypt five months previously, followed in a week by "an enormous bubo," which had been freely opened, resulting in an ulcer reaching almost from the pubes to the

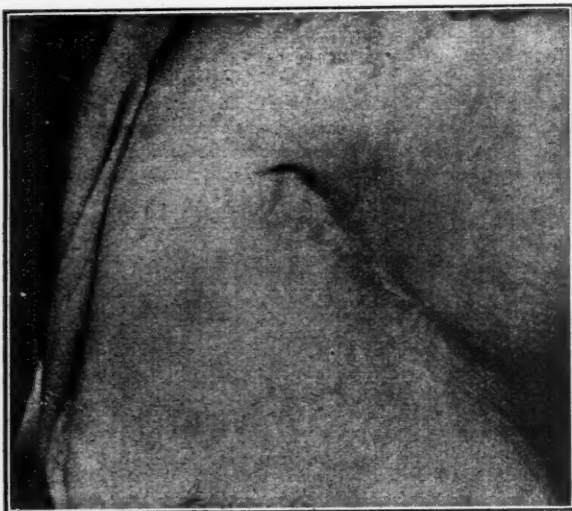


Figure IX.

Case 4.—Photograph of scar of an ulcer that healed slowly in seven months without special treatment.

anterior superior spine. The ulcer had shown little tendency to spread, but had healed very slowly, and there was now an area of superficial ulceration about 7.5 cm. long  $\times$  1.8 cm. wide. It slowly improved without any special treatment, and in two months had healed completely, *i.e.*, seven months after its appearance. This man has now been back at the front for nearly two years.

#### Remarks.

Cases 1 and 2 illustrate the severity and chronicity of secondary ulceration that may follow infection by the bacillus of Ducrey in tropical countries.

Case 3 illustrates the rapidity with which the process extends when new tissue is opened up to infection, and the rapidity with which the lesion heals when correctly treated. Removal of the overlying

tissues of the base of the ulcer, which was indicated in this case, would have been a very dangerous expedient but for the knowledge that any consequent extension of the ulceration could be easily arrested by tartar emetic.

Case 4 shows that ulceration, apparently due to a less virulent strain of organism, may heal very slowly on simple forms of local antiseptic treatment.

Consideration of these cases leaves no doubt that antimony was the predominant factor in their successful treatment; it is difficult to estimate the exact importance, if any, of the iodide; in the first case, it had been given in moderate doses for two months without the slightest benefit, and when the amount was largely increased it was combined with tartar emetic; but in the second case the spreading phagædenic areas of ulceration were not improved after three weeks' treatment with very large doses of iodide, although the more favourable part of the ulcer had quickly healed with a combination of iodide and ionization. Ionization did not affect the large ulcer in the first case, either at its ulcerating border, or in the larger area, where the surface was glazed and inactive, with little or no granulation, and its effect was controlled, to its disfavour, by the behaviour of the adjacent ulceration that was not submitted to this process; nor did ionization improve the deeply ulcerating tissue of the second case, although combined with iodide it had produced rapid healing in the larger area covered with coarse granulations.

It is clear that—

- (a) Ionization combined with iodide rapidly healed up a deep chronic ulcer with granulating base that had proved most resistant to other forms of treatment.
- (b) Ionization alone, or iodide alone in moderate doses, or very large doses of iodide combined with ionization, did not benefit in the slightest degree ulceration that was inactive and devoid of granulation or phagædenic.

The series provides no evidence as to the value, if any, of a combination of iodide and ionization, when used supplementary to the intravenous injection of antimony, nor as to the relative value, if there was value, of iodide and ionization in such a combination.

The impression is conveyed that, without the administration of tartar emetic, the ulcers in the first three cases would not have healed, and that no other treatment was of essential importance.

#### TREATMENT OF WAR WOUNDS OF THE KNEE-JOINT AT A BASE IN FRANCE.

By W. G. Dismore Upjohn, M.D., M.S.,  
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Army Medical Corps.

(Continued from page 50.)

#### Treatment.

All the wounds which came under my notice at the base were at least eighteen hours old; many were much older. It must be borne in mind, therefore, that the following remarks apply almost entirely to wounds in which sepsis had already become established. Too often the time had passed for the prophylactic or conservative surgery which is attended with

such happy results when carried out at a casualty clearing station. Accordingly, the indications were to put the patient and his knee in such a favourable condition that the natural powers of resistance were helped, and not hindered, by the treatment adopted.

It is not proposed to give a detailed description of the treatment of non-septic bullet wounds and wounds caused by minute fragments of shell.

The limb is put to rest, the wounds antiseptically dressed and the local and general condition watched day by day, till the surgeon is satisfied that there is no further risk of infection. The patient is then fit for evacuation to Britain. The method of resting the limb is briefly described below.

It is put into a Thomas's knee splint, furnished with a rectangular aluminium foot support, or, better still, with a Sinclair combined foot support and splint rest. Hammocks or slings of flannel are fixed between the two bars of the splint, under the knee, thigh and leg, so that the limb rests in a natural extended or slightly flexed condition. Four extension strips of adhesive plaster or glued gauze are applied as follows: one on the medial side of the leg, one on the lateral side of the leg, one from the ankle over the dorsum of the foot, one from the heel over the sole of the foot. The leg strips are tied firmly over the end of the Thomas's splint, so as to bring the thigh ring firmly in contact with the pelvis. The foot strips are tied over the cross bar of the rectangular foot support, so as to take up some of the weight of the limb and diminish the pressure on the flannel slings. By slinging the foot in this way the lateral rotation of the foot and foot drop are controlled. Dressings are applied to the knee and a broad bandage passed round the dressing and knee, including the splint. A limb fixed in this way is readily inspected. It is kept quite still and comfortable, and is ready for transportation without alteration in any detail.

If the wound is not a simple bullet wound, the patient is sent to the radiographer before the line of treatment is decided on. Two plates are taken, antero-posterior and lateral, and the foreign body localized. The importance of knowing the position and size of any foreign body present is, of course, obvious, but it is more important still to know before operating whether one has to deal with a wound of soft structures only or whether there is a bone injury, however small, in addition.

In wounds not involving bone, the treatment adopted is as follows:—

The patient is anæsthetized and the skin of the thigh and leg washed with the following solution:—

Tannic acid	8 parts
Acetone	20 parts
Methylated spirit	80 parts
Eosin sufficient to make a light pink	

As many of the patients arrive with skin which has not been cleaned for a long period, and as time does not always permit the usual leisurely skin preparation, the above lotion was generally used, and was quite satisfactory. It cleans off adherent dirt and grease, and hardens the superficial layers of the epithelium. By this tanning action it diminishes the risks of contamination of the joint during operation by loose, infected flakes of epidermis.

The edges of the skin wound are excised, just enough to get rid of bruised tissue, which would slough if left. The wound in the fascia is then inspected, and by means of a blunt probe or small bone curette the track of the wound is gently explored and an attempt made to bring the wound track into a straight line by putting the limb into varying positions, so that it comes to be in the position it was in when struck by the missile. The wounded and bruised tissues are then excised, together with about six millimetres of sound tissue all around, or even more, if the wounded tissue looks so damaged as to be likely to slough and cause re-infection. This excision is carried out in the entire length of the track, including the ligamentous and synovial layers. The missile and pieces of cloth are picked out, and any effusion into the joint allowed to escape. The rent in the capsule is sutured with catgut sutures, but no attempt is made to make it a perfectly water-tight joint.

The superficial structures are not sutured immediately, but are subjected to Carrel's treatment, and are closed later, when all sepsis has subsided. I have seen severe sub-fascial sepsis caused by premature closure of the superficial wound, though the joint cavity remained clean.

The next procedure is the forcible irrigation of the joint with eusol solution. The implements used to carry this out are two trocars and cannulæ about 4.6 mm. diameter, a Higginson's syringe and a connecting piece of rubber tubing. A small stab is made with a knife into the joint each side of the patella and the two cannulæ inserted just through the synovial membrane. One cannula is connected up with the Higginson syringe by a piece of rubber tubing, and eusol is slowly pumped into the joint. The joint is swilled out for about twenty minutes by distending it and allowing it to collapse repeatedly. This is done by placing the finger tip over the end of the exit cannula till the joint is distended to the desired extent, and then the finger is removed, allowing the fluid to escape after it has reached all parts of the joint cavity. By slightly flexing the knee, the entry of fluid into the posterior ramifications of the joint is assisted. The cannulæ are removed, leaving some eusol in the joint, and each stab wound is closed by a silk-worm gut suture. The limb is then immobilized in a Thomas's knee splint, as already described. Following operation, there is a slight local and general reaction, which subsides in about five days. The local reaction shows itself as œdema of the peri-articular structures and some swelling extending up to about the middle third of the thigh. There is pain for some hours after the irrigation, and tenderness over the line of the articulation for a few days. The general reaction is evident as fever and malaise, with a temperature about 39° C., and a correspondingly rapid pulse. On examining the pulse and temperature chart, however, a gradual and regular fall should be observed, with a return to normal about the fifth or seventh day. If this regular improvement is not maintained, the irrigation is repeated.

In one case the contents of the joint were evacuated, and it was irrigated five times before recovery eventually ensued. In only one case in a continuous



run of sixty was it necessary to resort to further operative measures. In this case the man had already been operated on, and there was pus tracking among the intermuscular planes on the medial and anterior aspects of the thigh. In all the cases so treated, the wound was inflicted at least eighteen hours previously; the usual interval was three days, and infection was definitely established.

It is, therefore, interesting to note what natural power of resistance to infection and of recovery the synovial membrane possesses if it is assisted by the removal of the source of infection and the thorough resting of the inflamed joint.

In mild infections good results may be obtained by the use of normal saline solution instead of eusol, but I did not have such uniformly good results with saline, so eusol was used regularly.

When the missile strikes one of the bones of the joint, the osseous damage may, of course, be of any degree of severity. There may be just a shallow groove cut in one or more of the bones, or small splinters may be torn off. The projectile may strike a bone with force insufficient to carry it completely through. In this case a septic tunnel is formed in cancellous bone, with the metal and pieces of clothing firmly wedged in its deep extremity. Such tunnels are often associated with fissures radiating out through the bone extremity and cartilages into the joint. It will be seen that a septic bone track of this type can infect the joint by sepsis spreading along the fissures. Even more extensive fracturing may be seen, such as comminution of the articular extremity, extending far into the shaft of the tibia or femur. Large masses of bone may be carried away, or they may be separated in the joint. In most cases of such a severe type the leg is amputated at the casualty clearing station; but in times of stress some of the patients arrive at the base, and are then often so septic that immediate amputation does not necessarily obviate the risk of grave general sepsis.

Comminuted fracture of the patella alone is not infrequent. It is treated usually by excision of the patella and adjacent damaged soft parts, with subsequent closure. The immediate results of this treatment are good. In considering the treatment of joint injuries complicated by fracture, several facts already briefly mentioned must be borne in mind.

(1) The bone is extensively bruised for a wide area around the actual surface of impact.

(2) Bone compares unfavourably with the soft structures for reaction against infection and recovery.

(3) While any infection lingers on an open bone surface communicating with the joint, it is a constant menace to the synovial membrane, by causing its reinfection.

When the bone is devitalized over a wide extent by deep bruising, it is even more dangerous in this respect.

(4) The shell fragment carries in with it and actually forces on to the broken bone surfaces in its track septic material from the outside world, such as clothing, skin and hair.

On opening up such a wound, one can demonstrate pieces of wool from the clothing, sticking to the

jagged bone edges or lying in a lump at the bottom of the wound. Failing appropriate treatment, it is inevitable that osteitis will ensue from such a condition of the parts.

It is difficult to lay down any definite line of treatment in these cases, since so many factors must be taken into consideration before coming to a decision.

The following are the procedures which I have adopted. An endeavour is made to indicate their limitations.

(1) *Method; Excision of the Wound Track, including Injured Bone.*

The entire wound track is excised till healthy tissues are met, and then an incision is made sufficiently wide to give good access to the injured bone.

By a sharp gouge or chisel, bone is cut away along the track till osseous tissue is reached, which appears healthy to the naked eye. The foreign body, if still embedded, is removed and the bone around it widely excised.

The cavity so formed is smoothed off by scraping with a sharp scoop. It is washed free from debris, and a pack of gauze soaked in undiluted hydrogen peroxide solution is quickly plugged into it. It is left in long enough to stop bleeding. The joint is forcibly washed out with eusol, as already described. The capsule is sewn up with catgut suture, so as to leave an opening opposite the hole in the bone. The peroxide gauze plug is removed conveniently at this stage. Into the bone cavity a single Carrel's tube of appropriate length is inserted.

The superficial wound is not closed, but unnecessary gaping is prevented by a few loose silk-worm gut sutures. The bare skin about the wound is smeared with sterile vaseline, and the wound in the superficial structures and the bone cavity are treated by Carrel's method with constant instillation of a hypochlorite solution. The limb is fixed in a Thomas's knee splint, as already described, and slung from a Balkan splint. Following this technique very acute infections often subside, to become mild infections, and cases within a few days of infection have repeatedly been observed to clear up completely, with every prospect of the joint retaining its full functions. The superficial wound is closed at a second operation, when clinically sterile. The local and general condition should show decided signs of improvement by the second or third day after operation. If the sepsis is obviously increasing, delay is not justifiable. Excision or amputation is then required. It does not seem to me that it would be worth while following out this treatment in a case where so much bone has been destroyed, e.g., the whole of one condyle of a femur, that, even if recovery from infection took place, a joint would be left which, from anatomical deficiency, would not possess the stability of a normal or ankylosed knee. This mode of treatment is used:—

- (i.) When the bone damage is not too extensive to prevent healing with a stable knee, either movable or ankylosed.
- (ii.) When the wounded infected bone surface is of such a nature that it can be completely excised, and irrigated by the Carrel method.
- (iii.) When the period which has elapsed since

wounding is not so great as to have rendered certain widespread sepsis in or around the joint, or acute osteitis in the cancellous bone.

(2) *Excision of the Knee-Joint.*

When the smashed bone is of wide extent, it is obvious that the operation of excising all damaged infected tissue evolves into excision of the joint. The cases which I consider suitable for excision are:—

- (i.) Comminuted fracture of the distal end of the femur, not extending into the diaphysis, the fracture being of such a nature that removal of loose fragments and excision of adjacent infected bone would leave a knee incapable of bearing the body weight with any degree of stability.
- (ii.) Slighter bone injury already subjected to excision of the wound track, as in Method 1, but not showing signs of responding satisfactorily to this treatment in two or three days.
- (iii.) Septic arthritis of the knee, uncomplicated by bone injury, which has not subsided after excision of the wound, irrigation with eusol and splinting.

In these cases excision is performed to secure adequate drainage by converting the suppurating joint cavity, with its multiple diverticula, into the one large open wound resulting from excision of the articular ends of femur and tibia, assisted by the subsequent separation of the sawn ends by extension of the leg.

Of the excisions which I performed at a base hospital in France, 70% were done as a primary operation for extensive articular bone lesions, 21.5% as a secondary operation following an unsuccessful conservative attempt at cleaning a limited bone lesion by Method 1, and 8.5% as a secondary operation for drainage where there was no bone injury, but where excision of the wound and forcible irrigation had failed to check an acute arthritis. As a life-saving, and incidentally a limb-saving procedure, it is of increasing value the earlier it is carried out after wounding. To excise a knee of a patient suffering from a grave arthritis of many days' duration, when the pus has broken into the inter-muscular planes of the thigh or calf, is to risk life for the chance of retaining a limb of doubtful utility. Another conservative method of treating gravely infected knees may be mentioned here. It consists in a wide, transverse arthrotomy, division of the medial and lateral ligaments, removal of the semilunar cartilages and acute flexion of the joint, to allow of drainage. The cartilage is gradually eroded by granulation tissue; rarely it flakes off; and when sepsis has subsided the patellar flap is brought down, the limb extended and ankylosis takes place, either directly or after a limited excision.

To provide a larger gap to permit better drainage, the cruciate ligaments may be divided.

In England I have seen many cases which had been treated in this way, but, owing probably to defective after-treatment, the orthopaedic results were often deplorable. Backward or lateral dislocation with inward or outward rotation was common, and an excision would be required to correct the deformity. It must be noted, however, that early excision of such

unsatisfactorily ankylosed knees may be followed by a recrudescence of sepsis so acute as to kill the patient. I know that other surgeons have obtained good results in suitable cases, but since my own experience with this method has been unsatisfying and limited, it will not be discussed here.

The operation of excision was usually carried out in the following manner:—

The limb was elevated for a brief period, and a tourniquet applied around the middle of the thigh. It greatly facilitates the rapidity, order and thoroughness of the operation to work in a bloodless field, and no trouble from reactionary hæmorrhage was ever experienced after removal of the tourniquet. In a few cases the tourniquet was not applied in the presence of stinking, anaerobically infected wounds, for fear that even a brief period of anæmia of the limb would be followed by an intensified sepsis. Such a risk is now generally recognized. If there was a considerable loss of superficial structures, a regular skin incision became impracticable. The joint structures were laid bare in whatever way seemed likely to yield the best exposure, while preserving a viable skin flap on the anterior aspect of the joint. Where possible, an H-shaped incision was preferred, commencing with a transverse cut across the front of the joint, on a level with the apex of the patella. This was carried on each side posteriorly as far as the intermuscular septa on either side of the *quadriceps femoris*. The vertical limbs of the "H" followed the line of the intermuscular space between the *vastus lateralis* and *biceps* on one side and between the *vastus medialis* and *adductores magnus* and *gracilis* on the other. The vertical limbs were continued distally for about 2.5 cm. beyond the transverse cut. The lower flap so marked out was dissected up from the tibia. The transverse cut was deepened so as to open the knee-joint on either side of the patella, and then the knife was carried round the sides and upper border of the patella, after the skin had been separated by traction and a few touches of the knife. The flap consisting of quadriceps and integuments could be raised easily, without much cutting, and the upward extension of the synovial cavity exposed. The flap was sutured back to the skin of the thigh by a few silk-worm gut sutures through the angles. The knee having been flexed to a right angle, the next step was to detach the lateral and medial ligaments from the femur by a knife held flat against the bone. Using the patella and *ligamentum patellæ* as a tractor, the tibia was pulled forwards and the attachments of the cruciate ligaments to the tibia and femur, divided by short, sawing cuts with the scalpel.

The semilunar cartilages could next be detached from the head of the tibia.

With a flexible retractor protecting the posterior ligament and subjacent popliteal structures, the condyles of the femur were sawn off at such an angle as to give a slight flexion to the ankylosed joint later. The level usually chosen for this section passed through the lateral epicondyle. The backward projecting sharp ends of the condyles were sawn off flat with the popliteal surface of the femur, and so the posterior retro-condylar pouches were opened up. All damaged bone surfaces were sawn or chiselled off, so that nothing but clean cancellous bone was exposed

in the wound. A thin flake of tibia was sawn off, to give a raw bone surface, which would later join up with the femur. Finally, the patellar ligament was cut close to the tibia and the patella removed. Any bleeding vessels after removal of the tourniquet were now picked up and tied with catgut ligatures. No attempt was made to dissect away the synovial membrane. It is not necessary, and its removal may be dangerous, by opening up fresh planes for infection. The further steps of the operation depended on the severity of the sepsis. If an excision is performed early for bone damage in the absence of severe infection, one can safely bring down the upper flap and suture it into position by four silk-worm gut sutures, while leaving the lateral incisions open for drainage. They come together naturally, and heal with very little scar formation.

If the operation is performed for, or in the presence of, acute sepsis, the safest procedure is to keep the flap turned back by suturing to the skin of the thigh, and to treat the large, open wound surface by the Carrel-Dakin method, till the sepsis has disappeared. The flap may then be turned down and sutured into position generally about ten days to a fortnight after the first operation. In all cases extension was applied to the leg by glued gauze, so as to form a gap of several centimetres between the femur and tibia, to permit free escape of discharges. To help to maintain the separation of the bone ends, the Thomas's splint was flexed to about a right angle at the knee. Oozing of blood from the sawn bone lasts about 24 hours, but loosely packed gauze prevents any excessive blood loss from this cause. The gauze must be removed gently after soaking with peroxide of hydrogen, and the date of its removal will depend on the degree of sepsis in the wound.

With early excision and little sepsis, it may remain in position for about ten days, at the end of which period it can be easily removed and the wound can then be sutured up, with lateral drainage by rubber tissue strips. Excisions require considerable attention after operation, to avoid complications and ensure a successful result. It is of the greatest importance that the sawn ends of the bone should be kept apart by extension, so long as there is any sign locally or constitutionally of sepsis. Failure to attend to this is the commonest cause of the continuance of sepsis, with high temperature and rapid pulse persisting after operation. Various writers have expressed the doubt that this temporary separation of the bone ends would lead to non-union. From my own experience I can only state that bone union has always occurred when the bone ends were allowed to come together after the subsidence of sepsis. It has been suggested, also, that it is dangerous thing to expose fresh sawn cancellous bone in a septic wound. My experience has been that there is no risk of osteomyelitis if the clean cut ends of bone are kept apart and if there is a free exit for all discharges from the wound until the bone ends are covered by granulations. There certainly is considerable risk of osteomyelitis if the original jagged, bruised, infected bone is not removed, or if the sawn ends are allowed to come together prematurely, with insufficient drainage. The temperature and pulse may have been almost normal for several days, and the wound not suppurating much. One

is tempted to hurry convalescence by letting the bones come together. Next day the temperature and pulse-rate are both raised, and there is a flare-up of sepsis in the knee. If the bones are separated and the conditions for satisfactory drainage restored, the symptoms will subside. It is the safest course, therefore, when the skin has been sutured and the case appears to be going on satisfactorily gradually to relax, day by day, the extension on the leg, so allowing the granulation-covered ends to approach one another.

This will be usually at about three weeks to a month after excision. The first evidence of osseous union, as shown by radiography, is about the sixth to seventh week after operation. At the first sign of retention of discharge or signs of septic absorption, the gap must be restored, by increasing the traction on the leg. If the limb has been kept flexed on a bent Thomas's knee splint, it is now put into a straight Thomas's knee splint, and great care is taken to prevent lateral or antero-posterior or rotatory displacement of the tibia on the femur. The estimate of the position, as shown by outward examination of the limb, is controlled by skiagrams taken laterally and antero-posteriorly. As already stated, the bone ends are sawn so that union will occur with the knee in a position of slight flexion. Above all, every care must be taken to prevent a backward sagging of the knee in the splint, with union in a position of *genu recurvatum*. Small localized abscesses in the soft parts may form during convalescence, and require opening. The commonest sites are under the upper or the lower flap, after suturing together, or in connexion with the remains of the *semi-membranosus* and popliteal synovial bursæ. At the end of two months, union may be sufficient for the patient to raise his limb from the bed, but the bone union is so soft that if he is allowed to walk at this stage, the soft union yields and a condition of *genu recurvatum* results. The patient should therefore be fitted with a Thomas's splint, which allows him to walk about, taking his weight on the pelvis and transmitting it along the bars of the splint, without putting any strain on the knee till the osseous systems of the femur and tibia have become firmly continuous.

The average shortening resulting from the operation is 5.5 cm. This can be fairly well compensated for by a thick boot sole. For reasons already mentioned, all cases do not follow a course to recovery, and then amputation is necessary. This seems a suitable place to discuss amputation in connexion with knee-joint injuries. It is a procedure advocated by some surgeons in all severe or septic injuries of the joint. These men may have been horrified at losing life in trying to save limbs, and they go to the opposite extreme. They recommend immediate amputation, without attempting any conservative treatment, such as extensive arthrotomy or excision, on the grounds that one is not justified in risking life in an attempt to save a partly useful limb. This attitude presupposes that when a limb has been amputated, the patient will be saved from the risks of sepsis. This is not altogether true, for I have often seen general sepsis in spite of early amputation. In these cases the amputation stump looked clean, but cocci were recovered from the blood by culture. The course taken will eventually depend on the experience and capacity for



sound judgement possessed by the surgeon. It is also stated that, after an amputation, a man can be fitted with an artificial limb which will be far more useful and more elegant than the limb which results after excision or arthrotomy.

There is no doubt that excellent functional results are obtained with modern artificial legs, but it must be recognized that amputation is a much more severe and immediately more dangerous operation than wide arthrotomy or excision, that secondary amputation is often required, and that disabilities of the stump, such as necrosis of bone, osteomyelitis, painful nerves, and bad scars are by no means infrequent. The performance of a conservative operation does not exclude a subsequent early amputation if sepsis does not subside, nor a later amputation if the orthopaedic result is bad.

Finally, though limbless men are now provided with artificial limbs, can one be certain of the future? Will this provision continue indefinitely after the war, when the war has become an unpleasant memory, and when the present enthusiasm for the crippled soldier has cooled to the stage of neglect or even annoyance?

Legless soldiers from former wars hobble round to-day with a crutch or a peg and bucket. What guarantee is there that the solicitude for the heroes of to-day will survive to prevent their coming to a similar fate? An ankylosed limb, even though it is short, is preferable to this.

There are, however, some fairly definite indications for not delaying amputation. The more important are detailed below:—

(1) The extent of bone destruction is so great that a functionally useful limb is impossible. So much bone is destroyed that non-union with a flail knee will result, or, if union does occur, the limb will be so short as to be an appendage and not a means of locomotion.

(2) The injury to the bone is complicated by wounds of the femoral, popliteal or tibial vessels. In the presence of sepsis, occlusion of the main vessels is followed by a rapidly spreading gangrene. The sooner the limb is taken off in such injuries, the less risk for the patient.

(3) The septic wound of the knee is only one of multiple shell wounds. The prognosis of multiple shell wounds is grave enough, but it is rendered very much graver by the presence of a septic arthritis. The risk is therefore diminished by amputation.

(4) The length of time which has elapsed between wounding and treatment may make one decide on amputation without giving conservative methods a trial. A wounded man who has lain out for 24 hours or more without food or assistance, perhaps in miserable, cold, wet surroundings, is not a suitable subject to run risks. He will generally show very little resistance if conservative treatment is attempted.

(5) The fracture of the knee is complicated by fractures elsewhere in the same limb, or by a severe wound of the buttock or perineum. Incomplete rest of the wounded parts, with a consequent continuance of sepsis, is likely to result, owing to the difficulty or inability in satisfactorily splinting the injured limb and the movement caused by dressing and nursing requirements.

(6) The same difficulty arises in patients who become actively delirious or maniacal,

(7) Age and habits of living are important factors. The healthy young soldier in the twenties or early thirties is a good subject for conservative treatment. The broken down, prematurely aged man in the forties, particularly if he is an old alcoholic with bad vessels and kidneys, is not a man to take risks with. He reacts badly to sepsis and he does badly if kept long recumbent in bed. Later on, union between fractured or sawn bone ends is delayed and often complicated by chronic osteitis and necrosis.

(8) The most difficult point to decide is when to abandon conservative treatment, *e.g.*, after excision, and when to proceed to amputation. Where the septic process is obviously increasing, or still remaining acute, one has no trouble in deciding, but there are cases where the local and general signs of sepsis subside up to a certain extent, and then keep on, never quite subsiding, but never getting very acute. From day to day one notices little change, but slowly and surely the patient's general condition is becoming bad. It is difficult to know whether such a patient will eventually recover or whether he will get worse, and perhaps the amputation is performed too late. Each case must be judged on its merits, but it is a fair working rule that, when the patient's appetite fails and he no longer eats well nor sleeps well at night, amputation may no longer be delayed.

Of the subsequent history of knee-joint injuries after return to Australia I know nothing.

From what I have seen of our Australian wounded in auxiliary hospitals in England, the prospects of a usefully functioning limb have been determined by the treatment received subsequent to the evacuation of the soldier from France. Most excellent recoveries have been observed where intelligent after-treatment, in the way of massage and movement, has been instituted at the right time. On the other hand, most lamentable results have been seen resulting from prolonged faulty splinting, too early removal of splints, deficient nursing and surgical attention, or actual surgical incompetence. The worst deformities seen were those due to the patient being allowed to put his weight at an early date on to a badly-smashed, not firmly ankylosed and unsplinted knee.

However, the majority should be amenable to suitable treatment later in Australia, and, after all, from what one sees of septic knees in France, they are lucky to have knees at all.

Probably more has been written about knee wounds than on any other war surgery subject in the last two years, and the methods adopted by different surgeons appear to vary greatly. If one studies all these methods, however, it will be found that the aims and underlying principles are similar. Each man adopts the method he thinks the most suitable for carrying out these principles, and if they are right there is no doubt that he will consistently get better results by sticking to his own methods, elaborating and improving them, than by starting on a new procedure, which is stated to give satisfactory results in the hands of some other operator.

The method is not as important as individual attention to operative technique and to after-treatment,

## Reviews.

### OPERATIVE SURGERY.

A book on operative surgery may be intended to appeal to either of two distinct groups of readers. It may concern the medical student who demands a concise treatise of the more common operations, written more from the anatomical than from the practical standpoint, or it may interest the practising surgeon, who will demand those intimate details of technique which are essential to successful performance.

Wheeler's "Handbook of Operative Surgery," has, in three editions, changed its particular group of readers without the necessary alteration of its subject matter. We are told by the author in a preface that "an attempt is made to provide an introduction to the type of operation which may confront the inexperienced practitioner in military and civil hospitals at home." We are bound to say that, reviewing the work in the light of the author's own words, his attempt is a disastrous failure.

He would be a reckless young practitioner, indeed, who would embark, say, on a gastrectomy, equipped with the advice given on a single page of Mr. Wheeler's handbook. And who would consider the inexperienced young surgeon justified in performing Mitchell's osteoplastic repair of skull defects, fortified with the directions given in half-a-dozen lines, even allowing that a picture of a successful case illustrates the text?

Sir Alfred Keogh, in an introductory note, points out that these are days when the younger surgeon is called upon to assume responsibilities that he cannot evade. It is a frank confession of the failure of our army medical organization if, after nearly four years of war, the recent graduate is called upon to do serious major operations under conditions rendering them still more difficult; and for such a tyro, Wheeler's "Handbook on Surgery" is surely no adequate guide.

It was one of the many evil results of our unpreparedness for war that in the early months of the conflicts men who were qualified, often neither by training nor by temperament, had to face surgical problems of huge magnitude, and that, in the jumbled state of affairs, young graduates at times became operating surgeons by the wave of a War Office wand.

War surgery in the front lines is often very rough surgery, and it is a bad training-school for the young surgeon, who is apt to lose his appreciation of the finer points of surgical craftsmanship. So, too, one of the post-war problems will be the mushroom surgeon, who has sprung up from an experience of crude amputations and who will dash into civil surgery qualified only by a certain callousness.

Wheeler's "Handbook of Surgery" seeks not merely to supply the defects in the armamentarium of such an aspirant, but, in the course of a few pages, endeavours to make him also a capable gynaecologist and urologist. If, on the other hand, we consider this book from its earlier and less ambitious point of view, it has much to recommend it. The student will miss the "indications for operation," which, for him, are so important, and, of course, there is no hint of the surgical complications that may follow, but the book is concise, and illustrated with numerous helpful diagrams. To write a satisfactory book for the student is a difficult matter, demanding a nice judgement as to what should be included and what may be omitted. One may say, however, with certain reservations, that, considering the book as a student's manual, it fulfils its rôle in an entirely satisfactory manner.

### MINOR MALADIES.

The fourth edition of "Minor Maladies and Their Treatment," by Leonard Williams,<sup>1</sup> is to hand. The section on constipation has been entirely re-written, the chapter on change of air has been omitted, and one on minor glandular insufficiencies, dealing mainly with thyroid disturbance, substituted. A small chapter on old age has been

included. In dealing with hyperacidity, the author introduces the following statement, which is quite opposed to the findings of radiographers: "If the stomach supplies too much juice, or if the supply is continued beyond the limits of the digestive requirement, the food mass becomes too acid to be allowed into the duodenum. The pyloric sphincter, therefore, contracts and prevents the passage of the food out of the stomach until the bile and pancreatic juices are present in quantities sufficient to neutralize its acidity. This may take some hours." Concerning constipation, the following passage occurs, which borders on ridiculous exaggeration: "Boys are not encouraged to void their excreta, and girls are often positively discouraged. 'You must not give way to those feelings; you must learn to control them.' Alas! she proves all too apt a pupil. The control attains not only to mastery, but to despotism; and the healthy, clean-skinned adolescent rapidly becomes the sour-smelling and sour-tempered adult." Surely, also the following is an absurd over-statement: "It is but a slight exaggeration to declare that every chronic disease is a symptom of chronic constipation. It is no exaggeration whatever to say that chronic constipation is at least a contributory cause in all chronic disease." Again, in speaking of "fibrositis," the author alleges that the "cause is connected with the gastro-intestinal tract, and is almost certainly produced by the absorption of toxins therefrom. The toxins are the result of defective metabolism, from the too free ingestion of meat foods and alcoholic drinks, or their inadequate elimination." Neither that statement nor the following will gain universal support. "Rheumatism in children shows itself . . . seldom or never as an arthritis." Regarding thyroid insufficiency, we have this downright assertion: "Now, with regard to rickets, I feel in a position positively to affirm that, if all the symptoms of the disease are not due to thyroid insufficiency, then certainly its most salient features are." The author's expression "thyroidlessness" can hardly be called elegant. Surely also he has sufficient knowledge of the British Pharmacopœia and has enough confidence in his own capability to prescribe, not to require to recommend in a book intended for juniors such drugs and preparations as glycothymoline, listerine, iodol, hazeline, neboline No. 1, chloretone, nepenthe, *liq. opii sed.*, *cremor euthymol.*, *syrr. pectoralis rub.*, etc. Also in the year 1918 he might have discontinued the names "heroin" and "veronal." He does not anywhere use the metric system, and even recommends dosage by "drops." Likewise, he might now abandon the words hydrochlorate and mur., when hydrochloride is intended. Lastly, when the author prescribes *ammon. carb.* and syrup of squills together, it is evidence that, so far from teaching his juniors, he requires seriously to refresh his own knowledge. Numerous misprints occur in the work, such as *acid. carbol. lev.*, and *calcinat. chlorinat.*, etc.

## Naval and Military.

### CASUALTIES.

We are pleased to record that no names of medical officers of the Australian Army Medical Corps have been included in the 418th list of casualties, which was issued on July 22, 1918.

### APPOINTMENTS.

The following announcement appears in the *Commonwealth of Australia Gazette*, No. 105, dated July 18, 1918:—

#### Australian Naval and Military Expeditionary Force.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the following appointment being made in the Australian Naval and Military Expeditionary Force:

#### Australian Army Medical Corps.

To be Captain (for voyage only)—

Honorary Captain R. B. Trindall, Australian Army Medical Corps Reserve. Dated 12th June, 1918.

<sup>1</sup> Handbook of Operative Surgery, by William Ireland de C. Wheeler, with an Introduction by Surgeon-General Sir Alfred Keogh, G.C.B.; Third Edition; 1918. London: Baillière, Tindall & Cox; Crown 8vo., pp. 364, with 226 illustrations. Price, 10s. 6d.

<sup>2</sup> Minor Maladies and Their Treatment, by Leonard Williams, M.D., Fourth Edition; 1918. London: Baillière, Tindall & Cox; Crown 8vo., pp. 402. Price, 7s. 6d. net.

## The Medical Journal of Australia.

SATURDAY, JULY 27, 1918.

### Between Two Stools.

When a nation is at war, it has certain obligations to the community in general. The Army and Navy are composed of citizens who have to be protected, as far as the military exigencies permit, from disease, and those individuals who become incapacitated as a result of wounds, sickness, or the less tangible but equally real concomitants of warfare, must receive medical, surgical and psychiatric treatment, so that the handicap on their return to civil life may be reduced as far as possible. The community must be spared as much of the burden, both of the campaign itself and of the after-effects, as is compatible with safety to the nation and as is possible without the imposition of intolerable conditions on the individual. It therefore follows that, while the prosecution of the war is the first duty of the Ministry entrusted with the control of the fighting forces, the same department bears the responsibility of the adequate care of the incapacitated. In the present great war the belligerents have adopted the plan of imposing the duty on the military authority of providing wounded and otherwise unfit soldiers with treatment as long as they remain in the forces. After discharge, another department is charged with the task of continuing the treatment and of undertaking the re-training of those men who are willing to have their lost earning-power restored to a greater or less extent by these means. In Great Britain, and still more markedly in Australia, the two stages are divided by a wide chasm. The War Office and the Department of Defence have undertaken to heal the wounds and to cure the pathological affections of soldiers and sailors; the Ministry of Pensions and the Repatriation Department have been created for the purpose of providing monetary compensation for loss of efficiency and professional re-education to increase the discharged man's earning power. In Great Britain there is a moderate amount of co-ordination between the two departments; in

Australia, it exists more in theory than in practice. While there are signs of better things in the future, it must be admitted that the medical service has failed completely in the past to initiate any workable scheme for the restoration of lost earning capacity of wounded or damaged men. This failure renders the task of the Repatriation Department an almost hopeless one, for no programme can be really effective unless it involves the application of remedies in every case at an early stage.

The fundamental mistake which has been made, is the arbitrary distinction between the duties of the two departments. As soon as it is recognized that a wounded man is lost to the country as a combatant, and that his injuries will probably result in a disability in civil life, the work of restoration should be begun. It is essential that this should not be delayed until the disability can be proved, for this would involve a loss of precious time and opportunity. In the average case the wounded man is suffering another serious disability, due to the deleterious effect on his nervous system of trench warfare and shell fire. A judicious arrangement between the medical service of the Army and the medical officers of the Repatriation Department is required, in order that the first essential in the work of the restoration of lost efficiency may be productive of the best results. This essential is the will training of the man. He should be taken in hand by a psychiatric expert, and his mind should be influenced gradually and skilfully, so that his outlook may be transformed from one of lethargy and hopelessness to one of alertness and trust in newly-acquired activity. The second stage is also a medical one, but the collaboration of the technical expert is eminently desirable, even at an early date. This assistance can be provided by the Repatriation Department, while the actual surgical and medical treatment belongs properly to the Army Medical Corps. Consequently, the need for close relationship between the two departments becomes evident. Moreover, the State cannot fulfil its obligations to the individual unless a complete scheme has been planned and every detail has been worked out for the benefit of the maimed and otherwise war-damaged men. The more thoroughly and skilfully this work is carried out, the less will remain to be done by the technical experts of the Repatriation Department after the soldier has been



discharged from the service. The third stage in the restoration begins when the actual healing has been completed. Its success depends on whether the foundation has been laid during the healing process. To allow a soldier to be discharged from the Army and then to wait until he finds that competition, lack of skill and disinclination for work drives him to the Repatriation Department for assistance means a signal failure. Every disabled man should be made to realize that, with care and assiduity, he can be fitted to regain independence and power to earn a good livelihood; his disability can be modified by a judicious selection of an occupation and by a careful training in a particular trade. It is imperative that a previously unskilled workman should be transformed into a skilled worker by adequate training. The proper time to approach the man is soon after he has been injured, while he is still in the Army or Navy, and the proper selection of a trade is the work of the medical officer and the technical expert. As matters stand to-day, there seems to be a grave danger that many wounded and incapacitated men will remain a burden to themselves and to the country, because the duty of caring for them is divided between two independent departments.

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#### ORGANIZATION FOR WAR PURPOSES.

In the present issue we publish a letter signed "A.A.M.C.," calling attention to the injustice that would be felt if men who have served in the fighting-line abroad were called up for whole-time training for a period of twenty-four consecutive days while they were endeavouring to re-establish themselves in their practices. This question of camp service is inseparable from that with which we dealt in our issue of July 6, when, at the request of the military authority, we appealed to medical practitioners to volunteer for whole-time home service, in order that the younger men at present undertaking these duties might be liberated for service abroad. We have reason to believe that the military authority has no desire to stand between the returned men and their livelihood. On the other hand, the only way to give a chance to these men, who have made a whole-hearted sacrifice and have faced death at the front, is in the hands of the medical profession itself. We learn that in the

United Kingdom the Minister of National Service announced, in the month of May, that he would issue an official explanation of the new *Military Service Act*. According to the provisions of this Act, every member of the medical profession has to be examined as to his physical fitness for war or civil work. The Local Arrangements Sub-Committee of the Central Medical War Committee then ascertains which practitioners can be spared from each area, either at once or at a later stage, after substitution. When the Sub-Committee has decided to investigate in a particular area, the usual fourteen days' notices are issued. All claims for exemption are heard by the Sub-Committee at their sittings. The practitioner can appeal from the Sub-Committee to the Central Medical War Committee. In this way the needs of the military authority will be met, while the care of the civil population is not neglected. In Australia, where the system of voluntary enlistment has led to the burden of the Empire being shouldered by the pick of our young men, while the profiteers and work-shirking individuals remain in comfort and prosperity, the organization of the medical profession for war purposes is left to take care of itself. A call like the one issued a few weeks ago should have received a response from every able-bodied practitioner. The fact that no committee exists to determine which men can be spared from a given area, and to deal with any attempt on the part of a practitioner left undisturbed in his private practice to utilize the absence of his colleague to his own advantage, no doubt has a deterrent effect on many men who otherwise would wish to come to the aid of their country. There is much talk in the air of a nationalization of the medical profession. Why does the Federal Government not nationalize the profession for war purposes?

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#### HOSPITALS AND THE MEDICAL PROFESSION.

The medical profession exists for the benefit of the sick and suffering. Its members are trained and registered in accordance with prescribed standards, and the public has a guarantee of efficiency. The practice of medicine necessarily deteriorates when it becomes a trade. As members of a profession, medical practitioners do not allow the price paid for their services to influence them. Provided that the patient has full

trust in his doctor and that no one intervenes to disturb the proper relations between the two, the services which the latter renders are valuable alike to the rich man and to the poorest individual. It is the duty of every medical practitioner to uphold the dignity and honour of his profession, and in this he receives assistance from the rules which govern the professional conduct of practitioners. These rules have not been arbitrarily framed, but have become formulated in the course of many years out of the conduct of men of the highest standing. From the earliest times it has been recognized that the services which practitioners may be required to render to persons of small means may not lead to the financial embarrassment of the latter. In this the practice of medicine differs from all other callings. Persons who cannot afford skilled attendance, with expert nursing, in their own homes, find these things provided for them in public hospitals. The man who cannot pay for a costly surgical operation can have it performed for nothing at a hospital. The honorary medical officers do not look for reward in carrying out this work, and do not spare themselves in the performance. Under ordinary circumstances, it is the men of greatest eminence who are selected for these positions, and in this way the poor can rest assured that they do not obtain less skilled treatment than their wealthier compatriots. One rule, however, governs the practice within public hospitals. It is that no payment may be made for the medical or surgical attendance. The medical officers do not accept a fee, and the management cannot honestly do so, for the fee would be paid for services rendered gratuitously by the physician or surgeon.

In Tasmania the Government is attempting to overthrow the established principles on which the greater part of the treatment of the sick poor is based. A staff of paid medical officers has been appointed at each of the two large institutions. In Launceston the system has obtained for a considerable time, despite the protest of the medical profession. In Hobart the innovation is the direct reply of the Government to the claim of the medical profession that well-to-do persons should not use the institutions especially established for the poor. How ineffectual this innovation has been may be judged from the fact that the Government has been compelled to place in the position of chief trust a practitioner whose registra-

tion has been effected on a degree of the Harvey College of Chicago of 1907, a degree which is not recognized for registration purposes in America, and which, we are informed, is no longer issued. In May of this year the expenditure of the hospital showed an increase of nearly £2,500 over the same month of 1917, and in June the increase, as compared with June, 1917, was over £3,000. The income from fees collected from patients during the year ending June 30 was £1,312 less than the sum collected in the preceding year. The extraordinary statement was made at the monthly meeting of the Board of Management that "the suffering poor were always treated with the utmost consideration, in fact, generously." Public hospitals are places established for the treatment of the sick poor, and it would seem as if the function of a public hospital had become strangely altered if a member of the board of management found it necessary to speak of the consideration shown and of the generosity extended to the very persons for whom the institution existed.

In the country hospitals a similar movement of change is in progress. A short time ago the medical officers of the Wynyard Hospital were approached with a view to the introduction of an arrangement whereby for a fixed monetary consideration the medical officers were to perform operations and carry out other work, while the board retained the sole control over the fees. This offer was not accepted. On July 12, 1918, the Committee of the Devon Hospital determined to enter into an agreement with its medical officers. The medical officers were to receive £250 per annum and two guineas for every maternity case attended to. The patients who were unable to pay for operations were to be attended without charge, while others were to be charged moderate fees, ranging between two and five guineas. The fees were to be fixed by the House Committee. This means that the management of the hospital is to decide what private fees the medical officer may charge. It directly violates the principle established throughout the British Empire, that medical officers in public hospitals may not charge fees, save in special wards or beds set apart for private patients, and that the hospital committees have no right to charge and accept fees for work carried out by salaried or honorary medical officers. The ethics of the medical profession demand that medical

practitioners shall recognize this rule. It is contrary to the usage of the medical profession for any of its members to enter into an arrangement with a hospital board for the purpose of regulating the practice of medicine between himself and paying patients. Any medical practitioner who enters into such an arrangement will sacrifice the good opinion of his colleagues and will have but himself to blame if his breach of ethics places him in an invidious position with the remainder of the profession. As long as a medical practitioner remembers that in his relations to the public, at all events as far as the treatment of disease is concerned, he must resist the intervention of a third party, and, further, that, in the practice of an honourable profession, he must be guided solely by the interests of the persons who apply to him for medical attendance, he can be sure that his conduct will have the full approval of his colleagues.

#### THE MEDICAL SCHOOL OF SALERNO.

On the coast of Italy, about thirty miles south from Naples, lies the deserted, neglected, provincial town of Salerno, now almost forgotten, but once wielding influence over the whole of civilized Europe. The cathedral, begun by Robert Guiscard and consecrated by Pope Gregory the Great, who came back an exile to lay his remains in the city, for having "loved justice and hated iniquity," still stands as the principal edifice in Salerno. The fine harbour, constructed by John of Procida in 1260 A.D., has, however, been freed from sand in recent years. Salerno, founded by the Romans in the second century B.C., rose into prominence during the invasion of the Italian Peninsula by the Lombards. Resisting capture for three-quarters of a century, it retained its institutions, schools and customs when it fell, at last, a prey to the Teutonic invaders. Its civic power endured until its sack by the Emperor Henry VI.

Its medical school,<sup>1</sup> whose origin is "as obscure as are the sources of the Nile," was certainly in existence in 848 A.D. It flourished in connexion with the hospitals established, partly, by the Benedictines, under the control of their famous monastery, and, partly, by the Crusaders, notably by the Knights of St. John of Jerusalem. To these hospitals came many a famous soldier to be healed of wounds. In the tenth century Constantine, the African, was a famous healer and medical teacher. A little later William of Normandy, known to us as William the Conqueror, sought cure from the surgeons of Salerno. Many legends celebrate the visit of Robert, son of William, to be healed from a fistula caused by a poisoned arrow. The romances tell us that his young and lovely wife, learning that the poison must be sucked from the wound,

applied her lips while the sufferer slept, and purchased his recovery with the sacrifice of her life. In the eleventh century a regular medical curriculum was in force, and Salerno was the medical centre of Europe. Its proud eminence continued for three centuries. The schools at Naples, Paris, Montpellier and Bologna grew to be rivals, and the fame of Bologna ultimately cast into shade its older competitor. Shortly before its decline the famous rhyming Latin poem, intended for the laity as a compendium of suggestions on health, the *Regimen sanitatis Salerni* or *Schola Salernitana*, emanated from the pen of Joannes de Meditano. This work was dedicated to the "King of England," and passed through 240 editions from 1484 to 1884. It has been translated into almost every European language. The medical school at Salerno lingered on until 1811, when it was suppressed by Napoleon.

In the thirteenth century the course of studies embraced three years' premedical instruction, four years of medical education, a year's probation under a licensed physician, and, for surgeons, an extra year of anatomical dissection. Once in every five years, the human body was dissected before the assembled faculty and the student corporation. The school of medicine achieved two objects, even if it added little to the progress of knowledge of medicine and surgery. It bridged the gap between the decline of Greek and Roman medicine and the renaissance of the fifteenth and sixteenth centuries. More important, it emphasized the need of adequate preparation before the practitioner ministered to the sick. However much we may be inclined to deery the value of its medical knowledge, we must recognize that its teaching represented the scholarship of its age, and that it aimed at equipping those leaving its walls with developed powers of thought and observation. A liberal spirit dominated the instruction, and hot and cold baths, heat and cold, fresh air, diet exercise and simple therapy were preferred to complicated pharmaceutical medication. The art of preparing drugs for use had reached a high degree of complexity at Salerno, even when the treatment was mainly dietetic. Nicholas Praepositus, Dean of the School, published in 1160 A.D. the famous compend of pharmacy, the *Antidotarium*, which was used in Salerno for centuries. It was one of the earliest printed books, appearing in German in 1472 and in Latin in 1480. The first manuscript edition contained the recipe for the "soporific sponge," made with the juices of opium, hyoseyamus, mandragora and lettuce. After thorough drying it was dipped, when required, into boiling water and applied to the patient's nostrils. It was employed to stupefy the patient before a surgical operation. In the *Catholica* of Master Salerno, who flourished at the close of the twelfth century, the use of *Staphysagria delphinium* was recommended for *pediculosis capitis*. The value of suggestion in treatment was appreciated by the Salernitan physicians. Peter Musandino, in 1160, in his treatise on dietetics, insists on the use of dishes and crockery that please the eye, to stimulate the flagging appetite of the sick. The patient who suffers from the disappointment and chagrin occasioned by the withdrawal of his accustomed wine, is comforted by a beverage not to be distinguished by taste. Musandino generously supplies

<sup>1</sup> See *United States Naval Medical Bulletin*, Vol. XII., p. 225, April, 1918.



us with the formula for this useful article. The descriptions of the preparation of the dishes to tempt those without desire for food would stimulate the salivary secretion of most readers.

It is of interest to note that Salerno opened the doors of its medical school to women. In this respect its practice followed the precedents established by Greece and Rome. Women were eligible for the doctorate and for license in practice, not only in a special field, but in all branches, including surgery. Many women of learning and talent can be counted in the list of the members of the faculty. The spirit of Salerno influenced the whole of Italy, and learned women left the print of their labours upon Italian knowledge before the Renaissance. Such teachers appear to have been eagerly sought. One who possessed beauty in addition to wisdom, lectured from behind a curtain, so as not to distract the attention of her class from the subject for consideration.

Salerno is worthy of honour, since, in the mediæval period, it instituted systematic medical study and maintained, for three centuries, a definite and high standard of professional training. It encouraged the study of medicine by women. It recognized ability without regard to race, creed or sex. It spread medical literature containing the chief achievements of its period. It inculcated the accurate observation of physical phenomena. Careful compounding was enforced. Sanitation and hygiene were promoted. The ancient school at Salerno deserves a place in the memory of every medical practitioner. Its light is now as that of a dim and distant star, but will be found to be that of a sun if it be closely approached.

#### THE INVASION IN PULMONARY TUBERCULOSIS.

Ever since 1901, when Koch made his famous and startling announcement that calves could not be infected with human tubercle bacilli, and that it was probable that human beings were not endangered by bovine bacilli, the question of the mode of entrance of tubercle bacilli into the organism has engaged the attention of pathologists. The researches of the Royal Commission and of a large number of independent investigators revealed in the early years of this century that Koch's statement was not true, in that calves can be infected, albeit with some difficulty, with human tubercle bacilli, and that, in the majority of intestinal infections in children, the bovine bacillus is the acting cause. Pathologists have gradually been forced by the weight of evidence to recognize that the bacilli gain an entrance into the lungs and peritoneum, not by direct spread, but by way of the lymphatic channels. Considerable controversy has existed as to the possibility of an inhalation infection in tuberculosis. It has been proved beyond all doubt that foreign particles cannot be inhaled into the air vesicles; they are always caught up by the ciliated epithelium of the upper portion of the respiratory passages. Although the truth of this doctrine is not challenged by modern pathologists, every additional scrap of evidence is worthy of record. Dr. J. O. Cobb, of the United States Public Health Service, has recently dealt with the point of entrance and the modes of invasion in pulmonary tuberculosis,<sup>1</sup> and has mar-

shalled a number of observed facts, which show that foreign particles, including bacilli, reach the lung even when introduced into the digestive canal. The crucial test of Oberworth and Rabinowitsch places this beyond doubt. These investigators established gastric fistulae in a series of guinea-pigs, and then introduced tubercle bacilli directly into the stomachs. The guinea-pigs developed primary lung involvement. Ravenel had previously proved the same sequence of events, but the method of feeding was not as conclusive, since the bacilli had been introduced through a fine hypodermic needle passing through the abdominal wall into the stomach. Dr. Cobb demonstrates that the only way cows can be infected with tuberculosis is by feeding. He is able to adduce a mass of evidence in favour of this. The next point of importance to which he refers is the fact that, while in man the apex of the lung is the site usually infected, the focus in cows is the caudal lobe, in close proximity to the large posterior mediastinal lymphatic gland. He shows that both in man and in cows dust, introduced either in the air breathed or with the food, is swallowed rather than inhaled. The bacilli contained in the dust are caught up in the lower and upper peri-bronchial glands. The exact paths followed to these glands is a matter of small moment. From the glands the infection passes along the lymphatic channels until, at selected sites, they are held. It can be shown that stasis of lymph occurs at these situations as a result of counter currents. Röntgenological observations and direct experiment have proved that carbon particles do not pass into the lung from lymphatic glands until the latter have undergone some permanent damage. From these deductions and observations it would seem that, while the bacilli may be inhaled or swallowed, the usual mode of entrance is through the gastro-intestinal walls, and thence by way of the lymphatic system to the glands, where they are arrested. The production of local damage to the defence arrangements of the glands marks the time of the onward spread of the bacilli into lung tissue. If this view be correct, it will be necessary to revise our conception of the reason for the selection of the apex as a site of infection of unusual frequency in man. Moreover, this histological onset of tuberculosis would indicate that the disease has already advanced far before the symptoms of cough and expectoration manifest themselves.

Major R. B. Wade has been appointed Consulting Orthopaedic Surgeon for the Australian Army Medical Corps, and will enter upon his important duties on August 4, 1918.

Dr. A. Wallace Weißen (B.M.A.) has resigned his position as Honorary Ophthalmic Surgeon to the Royal Alexandra Hospital for Children, Camperdown, Sydney.

The Council of the Queensland Branch of the British Medical Association has for a considerable time advocated the prohibition of the inclusion of lead in paint used for decoration of houses, on the ground that lead poisoning from this source is held to be very common in the State. A deputation urged on the Home Secretary on July 13, 1918, the necessity of introducing legislation for this purpose. It was stated that zinc forms an admirable substitute for lead. The Home Secretary promised to give the matter his careful consideration.

<sup>1</sup> *Journal of the American Medical Association*, May 26, 1918.

## Abstracts from Current Medical Literature.

### MEDICINE.

#### (25) Artificial Pneumothorax.

W. Parry Morgan advocates the treatment of pulmonary tuberculosis by partial collapse, induced by a special method of applying artificial pneumothorax (*Quart. Journ. Med.*, October, 1917). He argues that the advantages claimed for complete collapse of the lung can be attained by partial collapse, and that this method does not materially interfere with respiration, and can therefore be applied to both sides of the chest simultaneously. The chief object of artificial pneumothorax is to produce a condition of relative rest for the purpose of limiting auto-inoculation. He assumes that the respiratory movements of the unaffected parts of the lung pump out of the affected area tubercle bacilli and the products of their growth. By limiting these movements he considers that the chances of moving the infected matter from the original focus into the healthy lung is lessened. In support of his argument, he recalls the improvement which is said to follow a pleural effusion. He attempts to show that the decrease in the volume of the chest occupied by lung after the introduction of a litre and a half of nitrogen or other gas only causes a diminution of about 20 c.cm. of the tidal air. He contends that the utility of the procedure must depend on the possibility of injecting a gas into the pleural cavity without injuring the lung, since this would remove the possibility of controlling the amount of air contained in the cavity. By using an apparatus provided with an adjustable throttle, the gas passing from the reservoir into the chest encounters two resistances. The pressure in the reservoir is recorded by means of a manometer inserted between the reservoir and the throttle, while the intermediate pressure between the throttle and the needle is recorded by means of a second manometer. When the ordinary apparatus is used, the oscillations noted in the manometer do not occur until some gas is passing from the pleura into the needle and back again. The amount of air contained in the needle is insufficient for this purpose, and, consequently, oscillations before the injection of nitrogen are begun indicate that air is passing from the lung into the pleura. He gives formulae by means of which the exact pressure at the distal end of the needle can be calculated from the readings of the two manometers. In this way the risk of injuring the lung is said to be minimized. As a rule, he injects 300 c.cm. at the first operation, and after from a week to a fortnight he introduces an amount not exceeding 500 c.cm. He states that the changes which take place as a result of the absorption of gas tend to remove the amount of strain in the diseased parts.

Consequently, a single application of pneumothorax should be followed by good results. His practical experience leads him to the conclusion that great benefit accrues from this method of inducing partial collapse in relatively early cases of pulmonary tuberculosis, even when the pneumothorax has to be induced on both sides. His observations were limited by the interruption in this work which has been occasioned by the war.

Writing on the same subject, A. E. Greer (*Journ. Amer. Med. Assoc.*, May 25, 1918) records the results of 32 cases of pulmonary tuberculosis treated by artificial pneumothorax during three and a half years. The patients were treated for an average period of six months. The disease was in the first stage in seven cases, in the second in fourteen, and in the third in eleven. A Floyd-Robinson apparatus was used, and from 300 to 500 c.cm. of nitrogen were injected. In some of the earlier cases as much as 1,000 to 1,200 c.cm. were employed. This was followed by a pleural effusion, high fever and vomiting. These signs, however, passed off rapidly. In all, a pleural effusion occurred in eight patients. Pleural shock, infection, gas embolism or other disasters were not met with. Of the 32 patients, five had pleural adhesions which interfered with the production of the artificial pneumothorax. These five patients had all died. Three patients had refused to continue the treatment, and two died, while the third was very ill at the time of writing. One patient, whose disease was very advanced, also died. The remaining 23 were living. In 13 cases the disease was said to be arrested, in six the author reports that the condition was improving, in 19 that the condition was greatly improved, and in four that the treatment was discontinued, as no improvement had followed. He has arrived at the conclusion that, if a careful selection of cases be made, artificial pneumothorax is a valuable method of treatment.

#### (26) The Atropine Test in Enteric Infections.

Marris reported in 1916 that persons suffering from enteric fever or one of the paratyphoid fevers did not respond by an acceleration of the heart rate to an injection of atropine like normal persons or persons suffering from other diseases. He suggested that an acceleration of less than 15 beats per minute could be regarded as a reliable sign that the condition from which the patient was suffering was one of the enteric infections. The positive atropine reaction is therefore said to exist when the increase in the heart rate after the administration of atropine is less than 15 per minute. Marris's observations have received some confirmation from other workers, who have studied the reaction in epidemics of enteric fever. A. Friedlander and C. P. McCord (*Journ. Amer. Med. Assoc.*, May 18, 1918) have applied the test to a large number of persons suffering from conditions other than enteric fever. In 170 cases the original technique was very closely fol-

lowed, because their preliminary observations led them to the tentative conclusion that Marris's claims could not be substantiated. In all, they found that 63 of the 170 persons yielded a positive atropine reaction. The conditions from which these persons were suffering were very varied. They give charts of illustrative cases of morbilli and pneumonia. In one chart the acceleration was six beats per minute, and in another it was 46, while in a third it was eight and in a fourth it was 36. The test was applied to 27 patients on two successive days. In eight of these patients the test was positive on one day and negative on the next. They state, however, that these cases may be regarded as borderland cases, since the test was applied at a time when the pulse-rate was changing rapidly, and the variation of six or eight beats, indicating a change of reaction, may have been due to this fact. They consider that the fact that 36.4% of patients suffering from diseases other than enteric fever and the paratyphoids gave a positive atropine reaction justifies them in stating that this test is without value in the detection of enteric infections.

#### (27) Acute Rheumatism.

G. F. Butler, the Medical Director of *Mudavia*, gives an account of his practice of dealing with acute rheumatism (*Medical Times*, June, 1918). Under the heading "Prophylaxis" he states that the chief predisposing causes include exposure to cold, excessive feeding, excessive fatigue, unhygienic surroundings and certain occupations. The measures adopted should be adapted to each individual. He advocates for all the wearing of a woollen garment next to the skin during both the summer and the winter. Persons prone to rheumatism should not be employed in heavy manual labour or in domestic service. Diseased tonsils should be removed, carious teeth extracted and constipation guarded against. The heart of a person subject to rheumatism should be examined every six months. In the treatment of the acute attack, warmth, complete rest, a light diet and proper nursing must be attended to. He had little good to say of either serum or vaccine treatment, and pins his faith on the exhibition of salicylic acid. He accepts Luff's suggestion that, as fatty acid glycolic combines with sodium salicylate, so one of the toxins of rheumatic fever may be a fatty substance which has an affinity for the drug. He gives 15.5 gms. in 24 hours, and finds that the pain and fever are both combated. Salicylic acid is not, as a rule, well tolerated, and, consequently, sodium salicylate, aceto-salicylic acid, salicin or salophen are substituted. The salicylates have no action in lessening the probability of cardiac involvement, although indirectly they may do so by shortening the attack. They are also useless in the treatment of hyperpyrexia. He advocates alkaline treatment, together with salicylates, and speaks very highly of the effect of mud baths in the treatment of chronic involvement of joints and muscles.

## NEUROLOGY.

**(28) The Automatic Bladder and Excessive Sweating in Spinal Injuries.**

Head and Riddoch (*Brain*, Parts II. and III., 1918), after an elaborate investigation on the subject of the automatic bladder, excessive sweating, etc., in spinal injuries, came to the following, amongst other, conclusions. When the spinal cord has been completely divided, the bladder may, in favourable cases, expel its contents automatically as early as 25 days after the injury. If a catheter be passed after automatic micturition has become established, and fluid be admitted under the least possible pressure, it will be expelled (through the catheter) after a certain volume has entered. If the spinal cord be grossly injured above the lumbar region, automatic micturition may be facilitated by reflex stimulation, such as scratching the sole of the foot, the thigh or the abdomen. This will not obtain if the lower lumbar and sacral roots be destroyed, but deep breathing or pressure on the abdominal wall may then cause evacuation. When washing out a bladder in such cases, it is most important to avoid exercising undue tension on the bladder wall; it should be a rule to determine the volume of fluid at which evacuation occurs, and the bladder should always be allowed to empty itself, as far as possible, in response to endovesical stimuli. In most cases of hyperhidrosis associated with gross lesions of the spinal cord, the outburst of sweating represents the activity of the nervous system below the lesion. The outburst is great in cervical and dorsal and little in lumbar and sub-lumbar injuries, because all the fibres which produce sweating leave the spinal cord in the thoracic-lumbar region. In favourable cases paroxysmal sweating may be excited by almost any stimulus which sends afferent impulses into the cord below the lesion, such as scratching the sole of the foot or the abdomen, and, above all, by injecting fluid into the bladder. From the foregoing it is evident that, under certain conditions, the spinal cord below the lesion may show signs of diffuse reflex activity. Scratching the sole of the foot may evoke not only a flexor spasm, but a premature evacuation of the bladder and an outburst of excessive sweating. This the writers call a "mass reflex." When the spinal cord reacts with this massive response, it is obvious that the reflexes have, to a great extent, lost their original signature. Not only is the answer the same when diverse parts, such as the sole of the foot, the bladder or the rectum, are stimulated, but it matters little what part of the skin is scratched, provided it is supplied by the spinal cord below the lesion. The original paper is a long one, containing many other details, and an account of illustrative cases.

**(29) An Ataxic Type of Cerebral Birth Palsy.**

Ramsay Hunt (*Journ. of Nervous and Mental Dis.*, New York, January, 1918) remarked that the recognized clinical types of the cerebral birth

palsies were: (1) the spastic type of Little; (2) the flaccid or atonic type of Förster; (3) the cerebellar type of Batten. In addition to those, there were various sub-groups and associated symptoms which added to the variety of the clinical picture, e.g., choreiform and athetoid movements, tremors of the intention kind, myoclonic movements, epilepsy, involvement of the special senses, and mental defect, which, when combined with spastic diplegia, were usually classified under the heading of Little's disease. To these Hunt would add another, best described as "the ataxic type of cerebral birth palsy." It was characterized by a pure ataxia, without paralysis or spasticity. There was a history of a difficult birth, followed by a retardation and abnormality of motor co-ordination, causing a slowness, awkwardness, inco-ordination and ataxia in such acts as sitting, walking and talking. There might be some muscular hypotonicity and some sluggishness of the tendon reflexes. The superficial and the special senses were not affected, but a moderate degree of mental deficiency was noticeable. The plantar reflex was normal, and there was no nystagmus. The clinical picture, therefore, was a pure motor inco-ordination, a true ataxia, more pronounced when the eyes were closed, which affected in greater or lesser degree all voluntary movements. The ascribed cause was a vascular lesion during birth, a meningeal hemorrhage, thrombosis of the cerebral veins, softening, etc., confined to the parietal area in the sensory sphere. This form of birth palsy was the sensory equivalent of Little's disease; a cerebral diataxia, in contradistinction to a cerebral diplegia.

**(30) Lumbar Puncture in Delirium Tremens.**

Hoppe (*Journ. of Nerv. and Ment. Dis.*, New York, February, 1918) points out that for many years the routine treatment of *delirium tremens* has been catharsis, restraint and sedatives. In the "psychopathic ward" of the Cincinnati Hospital, a former physician had occasion to withdraw some cerebro-spinal fluid in a case of *delirium tremens* for the purpose of making a Bordet test, and was surprised to find afterwards that the patient seemed to derive great benefit from the procedure. It was repeated, has now become a general practice in this hospital, and, during the year 1916, was applied in 129 cases, here referred to. It is argued that such treatment is rational and in accordance with the pathology of the disorder, because alcohol has been found in the cerebro-spinal fluid in such cases, because in most the fluid is under pressure, and there is a general oedema of the pia mater, also because the eliminating function of the kidney is upset. As additional measures, catharsis, cardiac stimulants, alkaline drinks, hot baths or packs and the moderate use of sedatives are recommended. It is said that in this way the course of the disorder is shortened, the symptoms are mitigated (only 30% of these cases ex-

hibited severe delirium), the death-rate is reduced, and the patients are quieter, not so objectionable to other psychopathic inmates, and can be managed by female nurses, assisted by one male orderly.

**(31) Tabes Dorsalis.**

Grossman (*Journ. of Nerv. and Ment. Dis.*, New York, February, 1918), from a statistical study of 240 cases of *tabes dorsalis*, provides a number of data on questions about which there is divergence of opinion. He finds that the average age at which syphilitic infection takes place—dated from the primary chancre—is 24.4 years; and that the average age at which the first signs of *tabes* appear is 39 years. He discovers no difference in the age of onset of *tabes* between patients treated and those untreated for syphilis. Having given 14.6 years as the average pre-tabetic interval, he adds another three years as the probable average pre-ataxic period. In women, the pre-ataxic period seems to be shorter than in men. The average life-expectancy of the bed-ridden tabetic is much longer than that usually taught, thus, the average age of the immobilized tabetic is 53 years, and the mortality among tabetics over 53 years of age is 238 per 1,000. Most tabetics perpetuate the ataxic stage; in the small percentage of cases which become bed-ridden, from uncomplicated ataxia, the average duration of the ataxic period is 4.11 years. The cause of death in *tabes* is syphilis; and syphilis and *tabes* lead to death through cardio-vascular and renal degeneration, and through weakened resistance to non-syphilitic infection. *Tabes* is as non-lethal as any other form of syphilis.

**(32) Chemical Treatment of Meningitis.**

França (*Compt. Rend. Soc. de Biol.*, 1917, LXXX.) states that in 1902 he introduced the treatment of non-tuberculous meningitis by intraspinal injections of a solution of lysol. He has found his method to be effectual in severe cases. The lysol acts as an antiseptic, and the diplococci of epidemic cerebro-spinal meningitis disappear from the fluid. The method is as follows: After removal of 25 to 50 c.cm. of spinal fluid by lumbar puncture, inject of 1 in 100 solution of lysol, 12 to 20 c.cm. for adults, 3 to 9 c.cm. for children. If the state of the patient be grave, continue injections daily until the spinal fluid becomes sterile, which usually takes place rapidly. In cases of purulent meningitis let the lysol injection be preceded by lavage with normal saline solution. After the injection, place the patient in an inclined position, with lowered head. Urotropine is a useful adjuvant. It is advised that the injections be used in cases of cerebro-spinal meningitis, when, in spite of serum treatment, the course of the meningitis is slow and the meningococcus persistent in the spinal fluid; and in all bacterial forms of meningitis, with the exception of the pneumococcal and the tuberculous.



## British Medical Association News.

### SCIENTIFIC.

A meeting of the Victorian Branch was held at the Melbourne Hospital on July 3, 1918, Professor R. J. A. Berry, the President, in the chair.

The procedure adopted was as follows: The members of the staff first read notes of the cases, as set out on the agenda paper. After all the notes had been read, the patients were introduced and submitted to examination. An informal discussion was then held.

Dr. A. F. Bell dealt with an instance of *chorea* in a male, aged 45 years. The choreic movements were noted in the right hand, and there was spasticity in the right leg. No other physical signs were elicited. The blood pressure was 130 mm. Hg. The chorea was therefore not dependent on arterial degeneration. Dr. Bell raised the question whether this was an instance of Huntington's chorea in an early stage.

Mr. S. P. Croom showed a patient who was suffering from *acute tuberculous peritonitis*, secondary to tubercular disease of the Fallopian tube. The patient was 20 years of age. Seven years before she had been admitted to the Children's Hospital, complaining of acute abdominal pain. On exploration, tubercular mesenteric glands were found. The von Pirquet test was negative on two occasions, but four weeks later was positive. Her general health had been bad since that date, and she had suffered from chronic diarrhoea. She was admitted to the Melbourne Hospital in January, 1918. An operation was performed, and it was discovered that she was suffering from tubercular peritonitis, partly adhesive in type, with collections of fluid. The left Fallopian tube was removed, and the peritoneal cavity was drained for a month. She had gained 12.5 kilograms in weight. There were marked signs of tubercular disease in both lungs before the operation. These signs had cleared up, and the diarrhoea had discontinued. Mr. Croom laid special emphasis on the effect of drainage in this case.

Dr. W. J. Denehey dealt with the case of a young woman who had had enteric fever ten years before. During this illness an osteitis of the left tibia had developed. This lesion had persisted. Subsequently an abscess had appeared in the left elbow. The condition was regarded as *typhoidal osteitis*. Skiagrams of the tibia and elbow-joint were demonstrated by Dr. L. J. Clendinnen.

Dr. B. Kilvington recorded the operation of oesophagotomy undertaken for the recovery of a tooth-plate which had been swallowed, and which had been arrested in the oesophagus. The patient had been admitted five days after the accident. The oesophagoscope had been passed by Dr. Frank Andrew, who had discovered the plate embedded in the wall of the oesophagus and perforating it. Its site was localized in the skiagram, at the level of the first to the fourth dorsal vertebrae. At the operation the oesophagus was found to be gangrenous, and there was cellulitis of the surrounding tissues. The plate was divided with bone forceps, and was removed in fragments. After the operation the patient was given saline solution. Five days after the operation air was found to be passing in and out of the wound. The air passed from the trachea through an ulceration in its walls. The patient was then fed through a large oesophageal tube. The communication between the oesophagus and the trachea closed, and no air passed out of the wound. Dr. Kilvington pointed out that the risk with which the patient was faced was the development of an oesophageal stricture, as a portion of the oesophageal wall had been gangrenous.

Dr. G. T. Howard recorded a case of *splenic anaemia*. The patient had spent two and a half months in the Children's Hospital at the age of ten. He was suffering from an abdominal affection, which had been diagnosed as a tubercular peritonitis. On leaving the Children's Hospital in 1900, he had suffered a profuse epistaxis. There had been no previous abnormal hemorrhage. In 1908 the spleen was felt to be enlarged, and later the patient was admitted to the Melbourne Hospital for profuse hæmatemesis. Five and a half litres of fluid were evacuated from the abdominal cavity. The blood count revealed 3,000,000 red corpuscles to each cubic millimetre of blood. There was slight polkilocytosis. The white cells were normal. Two years later he had another profuse hæmatemesis. An operation was suggested, but was

not performed. In 1914 he first came under the care of Dr. Howard. On admission to the hospital he was pulseless, his skin was blanched, his respirations were sighing and he was cold and clammy. It was stated that he had vomited a bilious full of blood. The bleeding recurred during the following two or three days. The blood count revealed 2,000,000 red cells and from 2,000 to 5,000 white cells. He was treated by the administration of saline solution, serum, etc. He remained in the hospital for two months, during which time the number of blood corpuscles, both red and white, varied. No definite abnormality of the cells was determined. He left the hospital for a few months, but returned during the same year. Dr. Lambert then removed his spleen. After the operation the red blood cells increased to 5,000,000 and the white cells became normal. From that time onwards the patient had had no further symptoms. His blood appeared to be quite normal.

Dr. A. E. Morris exhibited two cases of *extra genital chancre*. In the first case the sore was on the lip. The patient had been treated for 14 days. The Wassermann reaction was positive, and spirochaetes had been discovered by the dark ground microscope in the exudation from the ulcer. There had been rapid enlargement of the lymphatic glands. In the second case, the chancre was also situated on the lip. No treatment had been started. The result of the Wassermann test had not yet been made known. No spirochaetes had been discovered. The lymphatic glands were enlarging rapidly.

Dr. J. E. Nihill showed a female, aged 15 years, suffering from white granular kidney. The illness had commenced with headache, which had become more acute a short time before. The radial vessels were distinctly thickened. The blood pressure was 240 mm. Hg. The urine contained a considerable amount of albumin. She was suffering from marked neuro-retinitis. There was no oedema in any part of the body. As far as could be ascertained, the patient had not had gout, lead poisoning or specific disease. Alcohol was also excluded as a cause. The relative infrequency of the occurrence of chronic granular kidney in a young girl was the chief point of interest in this case.

Dr. T. P. Moonan demonstrated a man, aged 46 years, who was suffering from *tabes dorsalis* and *Raynaud's disease*. The patient had had typical gastric crises. His fingers were painful, and periodically became cyanosed.

Dr. W. Ostermeyer showed a patient with persistent jaundice. He had developed *xanthoma planum et tuberosum* seven years before, and had had seven or eight attacks. The operation of cholecystectomy had been performed, and a number of gall stones had been removed. Three months later he had been seized with severe jaundice. Another operation was then undertaken. The dense adhesions resulting from the former operation rendered this procedure very difficult. The bile ducts were palpated, and were found to be free from calculi. The jaundice had persisted since the operation. *Xanthoma planum* was noted at the outer *canthi*, in the armpits, on the elbows and on the front of the chest. *Xanthoma tuberosum* was present on the extensor surfaces. Dr. Ostermeyer pointed out that *xanthoma* developed either on mucous or on serous surfaces. The patient had had aphonia. On examination, a tubercle was seen in the larynx. He raised the question whether this lesion was also *xanthoma*.

Dr. W. Ostermeyer also exhibited the temperature chart of a patient who was suffering from enteric fever. The chart showed a sudden, unexplained fall of temperature of 4.8° C. It was suggested that this fall indicated hæmorrhage, but no trace of blood had been detected in the stool.

Dr. C. Roche exhibited a boy, aged 11 years, who was suffering from *congenital spastic paraplegia*. He had been treated some years previously by tenotomy, for the reduction of adductor and other deformities. The extreme general spasticity in both lower limbs had persisted, and his walk was a difficult shuffle. The case was considered suitable for selected posterior root division. Laminectomy of the two lower dorsal and two upper lumbar vertebrae was accordingly performed, and the lumbo-sacral enlargement of the cord and the uppermost part of the *cauda equina* were exposed. Alternate little bundles of posterior rootlets were severed close to the cord throughout the lumbo-sacral region. About one-half of the rootlets on each side were divided. This was done rather than the severance of definite, formed, posterior roots, in order to give a more evenly distributed peripheral effect. The operation had been performed twelve

months previously, and the spasticity had been absent ever since. With the freer movement, the musculature of the lower limbs had improved greatly, so that he could walk more freely and lift his feet from the ground. There was no definite impairment of the sense of position or of movement, or of cutaneous sensation.

Dr. S. V. Sewell gave an account of a patient who had been operated on by Dr. Zwar for the removal of a *cerebellar cyst*. Six months before the patient began to suffer intense left-sided headache. The pain became worse, and, after a few weeks, vomiting was superadded. In March the patient staggered to the left when walking. In May the vision began to fail, and double optic neuritis was discovered. He examined the patient two months before, and found that his mentality was alert. There was intense headache and staggering to the left, but no signs of ataxia. There was a definite tendency for the left ear to approach the left shoulder. Nystagmus was induced by looking to the left. On looking to the right there was lack of fixation, but no nystagmus. The left ear was deaf. The reflexes on the left side of the body were defective. The knee-jerk was absent and the ankle-jerk was just obtained. Later, the knee-jerk was elicited occasionally, but it was never as active on the left as on the right side. There was atonicity on the left side, as compared with the right side. The diagnosis appeared to be either a tumour in the cerebello-pontine angle, pressing on the eighth nerve, a lateral cerebellar tumour, or a frontal lobe tumour. The frontal lobe tumour was excluded, in view of the absence of mental clouding. Dr. Sewell concluded that, as there was no ataxia, the function of the middle cerebellar lobe was unimpaired. He therefore arrived at the conclusion that the tumour was situated in the lateral lobe of the cerebellum. Cushing's occipital bilateral method was adopted at the operation. The advantage of this method over that of opening one side only was that torsion of the medulla was prevented from occurring with the sudden relief of pressure. When the skull was opened, the left side was found to bulge, and there was an escape of fluid under great pressure. On examination, the cyst wall was found to be composed of cerebellar tissue. It thus appeared that the cyst was a retention cyst. The body temperature had varied considerably during the course of the illness. This was probably due to pressure on the thermo-toxic apparatus. The patient had been free from headache since the operation.

Dr. R. R. Stawell showed a case of *spleno-medullary leukaemia*. When first seen, the patient was very anæmic. The provisional diagnosis on admission was splenic anæmia. A blood count revealed that there were 500,000 white blood cells. He had prescribed 1 c.cm. of benzol three times a day and radiation with Röntgen rays. The patient had improved under treatment. Dr. Stawell asked members to recount their experience of benzol treatment, more particularly in regard to its efficacy, its lasting effects and the dosage.

Mr. G. A. Syme spoke of a case of *recurrent renal calculus*. The patient had been operated on in 1912 at St. Peter's Hospital in London. Subsequently, his health had not been satisfactory. He had suffered from headaches and other symptoms, and had been advised to come out to Australia. He was admitted to the Melbourne Hospital for hæmaturia. He complained of headaches and nausea on waking in the morning. The question of the removal of the kidney was considered. The ureters were catheterized, and the urine collected in each kidney was found to contain albumin. The kidney was exposed at the operation, and was found to be so disorganized that its removal was proceeded with, notwithstanding the condition of the other kidney. Since the operation there was still some albumin in the urine. Mr. Syme pointed out that many surgeons questioned the justification of removing one kidney when the other was known to be impaired. He exhibited both the skiagram and the calculus from this case.

In the next place, he showed a case in which the diagnosis was very difficult. The patient was a man, aged 49 years, who sought treatment for a lump on the sternum. The patient gave a history of having had broncho-pneumonia and pleurisy, but no tubercle bacilli were found in the sputum. There were some large lymphatic glands in the sub-maxillary regions. The sternal swelling was soft. It was considered to be tubercular, and was scraped away. The tissue removed was not examined. The tumour recurred, and had subse-

quently been removed, together with an area of apparently healthy tissue. A pathological examination was carried out, and the pathologist reported it to be either an endothelioma or an alveolar sarcoma.

Dr. J. F. Wilkinson showed a patient to illustrate an instance of *familial splenomegaly*, with anæmia of the type of pernicious anæmia. The patient had been seen six weeks before, when he was so ill that he was incapable of taking food, when he was so weak that he could not sit up, and when he was suffering acutely from hunger. It appeared that he was a member of the family whose splenic affection had been recorded by Drs. Stirling and Springthorpe at the Australasian Medical Congress of 1908 (Melbourne). A sister of the patient, apparently a healthy woman, had one child in hospital with an enlarged spleen. The Wassermann reaction of this child's serum was positive, and the condition improved under appropriate anti-syphilitic treatment. Dr. Wilkinson pointed out that miscarriages were very common in these cases. He considered that they differed from splenic anæmia in that there were no hæmorrhages. The colour of the patient and the absence of free hydrochloric acid in the gastric secretion gave these cases the appearance of a pernicious anæmia. The patient had very bad teeth, which had to be attended to in the early part of the treatment. Examination of a blood film revealed megaloblasts. He therefore came to the conclusion that he was suffering from an anæmia of the pernicious type, dependent on a specific infection. Marked improvement followed treatment, including arseno-benzol, hydrochloric acid and attention to the septic teeth. In the differential diagnosis splenic anæmia, syphilis, mitral stenosis, malaria, cirrhosis of the liver and pernicious anæmia had to be taken into account.

Dr. Wilkinson also showed some films of the blood of a patient whose spleen had been removed one year before. He had no record of the blood picture before the operation had been performed. The spleen had been removed for splenic anæmia. The patient was seen to be very anæmic, and the blood film had all the characteristics of a pernicious anæmia, including megaloblasts.

Dr. L. J. Clendinnen exhibited a series of skiagrams and Dr. F. G. Morgan showed some pathological specimens.

A clinical meeting of the New South Wales Branch was held in the Board Room of the Sydney Hospital on July 12, 1918, Dr. A. A. Palmer, the President, in the chair.

The procedure adopted was as follows: Before the Chairman opened the meeting, the members had an opportunity of examining the various patients and exhibits. The Chairman then called upon each member whose name was on the programme, to demonstrate his patient or other exhibit. After the patients had retired, a discussion ensued. We hope to publish in future issues full accounts of some of the cases referred to.

Dr. R. Gordon Craig demonstrated the result of the introduction of an artificial tendon in the triceps muscle of a man who was wounded early in the war.

Dr. H. Ritchie demonstrated a very well marked bullous bromide rash, which had appeared in a young female epileptic. The rash was limited to a great extent to the legs. The patient was under treatment in the Out-patient Department, and was in the habit of receiving sufficient medicine for one month. The accidental omission of arsenic from the bromide mixture led to the development of the rash. Dr. Ritchie called attention to his experience of the frequency of epilepsy in immigrants. He had personally had under treatment seven individuals who had had epilepsy in England prior to immigration. He considered that greater care should be exercised to exclude these people, since this form of defect was highly undesirable in a country like Australia.

Dr. F. W. Hall demonstrated the case of a young woman with an intra-thoracic tumour, which had been diagnosed as an aneurysm of the left carotid artery.

Dr. H. S. Marsh gave a laryngoscopic demonstration of a malignant tumour in the upper portion of the œsophagus.

Dr. C. E. Corlette showed a patient who had suffered from a very extensive hydatid cyst of the lung, extending as high as the angle of the scapula behind and as the level of the nipple in front. Dr. Corlette had resected a portion of two ribs, had evacuated the contents of the cyst and had closed

the chest wall without drainage. He exhibited skiagrams to demonstrate that the cavity in the lung had gradually disappeared. Healing had taken place rapidly, and the patient left the hospital seventeen days after the operation.

In the course of the discussion, Dr. Gordon Craig raised the question whether this method was applicable to every case. He pointed out that, at times, when there was no ectocyst shutting off the hydatid from the bronchus, the rupture of the endocyst, either spontaneously or after puncture with an exploring needle, had led to the drowning of the patient. He assumed that in Dr. Corlette's case the ectocyst must have been complete. Had it been defective, and had there been free communication between the cavity of the cyst and the bronchial tree, an infection would have been inevitable.

Dr. H. M. Moran pointed out that the French surgeons in the war zone were now closing thoracic wounds after the removal of the foreign body or blood clot. He contended that Dr. Corlette's method of dealing with an hydatid cyst could be compared with this practice. Apparently, the French surgeons had not experienced any considerable difficulty from sepsis, although it was quite obvious that, in these penetrating wounds, the bronchial tree was usually opened up.

Dr. T. Flaschl understood Dr. Corlette to state that the opening of the chest in the presence of a large accumulation of fluid might lead to the drowning of the patient through the bursting of the cyst wall into a bronchus. He thought that the risk was very slight, in view of the large opening in the chest wall through which the fluid could escape.

Dr. A. H. Tebbutt pointed that out every hydatid cyst neces-

sarily had an endocyst and an ectocyst. Each was part of the cyst wall. What Dr. Gordon Craig was probably referring to was the adventitia, which was a layer of contracted pulmonary tissue varying in thickness.

In recognizing the validity of the criticism, Dr. Corlette maintained that it was quite safe for the surgeon, who had his eyes open and who was prepared to meet emergencies, to close the chest wall after the evacuation of the cyst. The adventitia in his case was relatively thick.

In the next place, Dr. Corlette demonstrated a patient in whom he had performed a new rhinoplastic operation for the repair of a defect caused by a rodent ulcer. He announced that the details of this operation would be published in *The Medical Journal of Australia* after some further experimental work on the cadaver had been carried out.

Dr. J. G. Edwards exhibited a series of skiagrams illustrative of a number of interesting and instructive points in anatomy and surgery. The pictures, which were of remarkable clearness, were carefully examined by the members present.

A series of pathological specimens of typical and rare conditions were to have been exhibited by Dr. Sydney Jamieson. In his absence, Dr. Aspinall and Dr. Ritchie explained a few of the specimens.

Dr. C. E. Corlette showed some further exhibits. These were (i.) Bryan's hammock bed, (ii.) Sinclair's suspension apparatus for the treatment of fractures of the upper and lower limbs, and (iii.) a series of bone preparation illustrating three new amputations of the foot.

## Public Health.

### THE HEALTH OF AUSTRALIA.

#### Infective Diseases Notified in Australia during the quarter ending March 31, 1918.

	N.S.W.		Victoria.		Queensland.		S. Australia.		W. Australia.		Tasmania.		Com'wealth.	
	Cases.	Dths.	Cases.	Dths.	Cases.	Dths.	Cases.	Dths.	Cases.	Dths.	Cases.	Dths.	Cases. <sup>2</sup>	Dths.
Enteric Fever .. .. .	349	40	208	31	251	28	63	9	113	7	67	2	1,051	117
Scarlatina .. .. .	297	2	484	11	72	1	82	1	89	0	18	0	1,042	15
Diphtheria .. .. .	1,310	38	1,060	32	498	10	273	12	217	6	140	5	3,498	103
Pulmonary Tuberculosis .. .. .	270	237	387	186	130	73	153	69	102	62	44	22	—	654
Cerebro-Spinal Meningitis .. .. .	45	29	16	15	25	18	7	2	3	0	0	0	96	64
Poliomyelitis .. .. .	9	3	211	24	4	5	0	3	0	0	9	1	233	36
Malaria .. .. .	2	0	0	1	22	11	0	0	0	0	0	0	24	12
Puerperal Fever .. .. .	—	17	0	5	7	4	3	3	2	3	0	0	—	32
Septicæmia, Pyæmia .. .. .	—	9	0	10	—	4	—	2	3	2	—	0	—	27
Bilharziosis .. .. .	—	1	—	0	4	0	0	0	13	0	0	0	—	1
Morbili .. .. .	—	6	—	2	—	0	32	3	—	3	—	0	—	11
Pertussis .. .. .	—	16	—	18	—	8	48	1	—	1	—	2	—	46
Ophthalmia Neonatorum .. .. .	—	1	0	0	—	0	—	0	0	0	2	0	—	1
Erysipelas .. .. .	—	2	0	4	31	0	19	3	13	1	0	0	—	10
Anchylostomiasis .. .. .	—	0	—	0	8	0	—	0	—	0	—	0	—	0
Dysentery .. .. .	—	0	—	0	2	0	—	0	—	0	—	0	—	0
Beri-beri .. .. .	—	0	—	0	—	3	—	0	8	4	—	0	—	7
Favus .. .. .	—	0	—	0	—	0	2	0	—	0	—	0	—	0
Variola .. .. .	1	0	0	0	0	0	0	0	0	0	0	0	1	0

<sup>1</sup> Notifiable only in portion of State.

<sup>2</sup> The total number of cases notified is not given of those diseases which are not notifiable in all the States.

<sup>3</sup> Including five deaths in Northern Territory.

<sup>4</sup> Including cases notified as hæmaturia.

#### NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight ending July 13, 1918:—

	Metropolitan District.		Hunter River District.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs. Dths.
Enteric Fever .. .. .	9	1	2	1	6	2	17 4
Scarlatina .. .. .	21	0	0	0	28	0	49 0
Diphtheria .. .. .	87	3	11	0	140	10	238 13
*Pul. Tuberculosis .. .. .	70	14	1	0	1	0	72 14
C'bro-Sp'l. Menin. .. .. .	3	1	2	1	0	1	5 3

\* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

#### VICTORIA.

The following notifications have been received by the Department of Public Health, Queensland, during the fortnight ending July 14, 1918:—

	Metro-politan.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs. Dths.
Enteric Fever .. .. .	0	1	5	0	5 1
Scarlatina .. .. .	61	0	60	0	121 0
Diphtheria .. .. .	222	5	119	2	341 7
Pulmonary Tuberculosis .. .. .	23	11	18	4	41 15
C'bro-Spinal Meningitis .. .. .	1	—	2	—	3 —
Poliomyelitis .. .. .	1	—	3	—	4 —



## QUEENSLAND.

The following notifications have been received by the Department of Public Health, Victoria, during the fortnight ending July 13, 1918:—

Diseases.	No. of Cases.
Enteric Fever .. . . .	6
Scarlatina .. . . .	20
Diphtheria .. . . .	123
Pulmonary Tuberculosis .. . . .	29
Erysipelas .. . . .	5
Puerperal Fever .. . . .	2
Anchylostomiasis .. . . .	1

## SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the fortnight ending July 6, 1918:—

Diseases.	Adelaide.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever .. . . .	0	0	1	0	1	0
Scarlatina .. . . .	2	0	18	0	20	0
Diphtheria .. . . .	17	1	94	5	111	6
Pulmonary Tuberculosis .. . . .	1	4	15	13	16	17
C'bro-Spinal Meningitis .. . . .	0	1	3	1	3	2
Puerperal Fever .. . . .	0	0	1	0	1	0
Erysipelas .. . . .	1	0	10	0	11	0
Morbili .. . . .	2	0	0	0	2	0
Pertussis .. . . .	2	0	12	0	14	0

## TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the fortnight ending July 13, 1918:—

Diseases.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Enteric Fever .. . . .	0	1	0	1
Scarlatina .. . . .	0	1	1	2
Diphtheria .. . . .	1	6	13	20
Pulmonary Tuberculosis .. . . .	3	0	2	5
Puerperal Fever .. . . .	0	0	2	2

## WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending June 22, 1918:—

Diseases.	Metro- politan.		Rest of State.		Totals.	
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Scarlatina .. . . .	41	2	43			
Diphtheria .. . . .	21	18	39			
Pulmonary Tuberculosis .. . . .	2	4	6			
Septicæmia .. . . .	1	0	1			
Ophthalmia Neonatorum .. . . .	1	0	1			
Erysipelas .. . . .	1	2	3			

## Correspondence.

## SERVICE IN THE CITIZEN FORCES.

Sir,—The Minister for Defence has decided that the citizen forces shall have twenty-four days' continuous training under canvas this year. The usual period is only ten days.

Medical men who were patriotic enough to join the A.A.M.C. (not the Reserve) before the war, and who have been on active service, will find it difficult to keep their practices going and attend the camps. In many cases returned men have found it hard to work up their practices on returning from active service.

Many medical men, who have, for various reasons, been prevented from going to the front have done their best to help things along by doing home service work in the A.A.M.C.

Others have neither volunteered for active service, nor joined the A.A.M.C. active list for home service—not even

the Reserve. Men up to 50 years of age, if physically fit, are quite capable of performing the duties of a medical officer in camps of continuous training.

After four years of war there can be no excuse made for medical men who fail to join the A.A.M.C., either for active or home service.

It is a matter for regret that there are young men in the medical profession who have done no military work since the war began.

Surely the "returned man" will not be allowed to bear the burden of these camps?

Of course, it is to be hoped that the military authorities will not fail to call up the A.A.M.C. Reserve for camp duty, but, unfortunately, medical men who have not joined the A.A.M.C. cannot be called up.

Yours, etc.,

"A.A.M.C."

Sydney, July 16, 1918.

## RADIOGRAPHY IN HOSPITAL PRACTICE.

Sir,—Some time ago I wrote to the *Journal*, advocating the use of specially trained nurses in special departments of hospitals. Since then many nurses have interviewed me, and have stated their willingness to be trained for such a purpose, and they have been sent on to interview those in authority, and have only been granted some lukewarm encouragement.

Again, I state that it is time that the large metropolitan hospitals undertook the training of nurses to fit them to hold positions in special departments of hospitals in the city and the country, and I feel confident that many such nurses would be gladly sought after, and that a much-needed want would be supplied.

I append a letter from Wangaratta District Hospital, and I know of several country practitioners who would procure X-ray outfits for themselves and their hospitals if they could only get such trained nurses to work them.

Yours, etc.,

HERSCHEL HARRIS.

215 Macquarie Street, Sydney,  
July 16, 1918.

Wangaratta District Hospital,  
Wangaratta, 24th June, 1918.

Dr. Herschel Harris,

Macquarie Street, Sydney,

Dear Sir,—This institution has been fortunate in having received the gift of an X-ray plant, which has just been installed, but we are in a difficulty regarding an operator. Dr. Clever Woods, of Albury, has informed me that there is an institution in Sydney, or some expert, who instructs and turns out nurses or sisters qualified to work the plant satisfactorily, and has recommended me to write you on the subject, as he noticed a paper contributed by you on the subject in a recent copy of *The Medical Journal of Australia*. I will therefore be much obliged if you would give me particulars, and also advise me if such a sister would be available at present.

Apologising for troubling you,

Yours sincerely,

THOS. GRAHAM,

President.

[Dr. Herschel Harris advocates the training of nurses as Röntgenological technicians, in order that the employment of Röntgen rays may become more general in hospital and private practice. He naturally makes it a *sine qua non* that the duties of the nurses should be limited to the taking of the skiagrams; the interpretation must be left to the medical practitioner. In view of the possibility that the deliberate training of nurses might involve a risk of the diagnosis and treatment being undertaken by persons other than registered medical practitioners, we invite radiologists and others interested in this question to express their views on the whole subject in these columns.—Ed.]

### Medical Appointments.

The following re-appointments to the staff of the Adelaide Hospital are announced in *The South Australian Government Gazette* of July 11, 1918:—

Honorary Physicians: Edward Angas Johnson, M.D.; and Harry Swift, M.D.

Honorary Physician to Skin Department: Rowland Edward Harrold, M.B.

Honorary Surgeon: Benjamin Poulton, M.D.

Honorary Surgeon to Aural Department: George Alfred Fischer, M.B.

Honorary Gynaecologist: Thomas George Wilson, F.R.C.S.  
Honorary Assistant Gynaecologist: Arthur Francis Lynch, M.B.

Honorary Assistant Surgeons: William Rowland Cavenagh-Malnawaring, F.R.C.S.; and Henry Simpson Newland, F.R.C.S.

Honorary Radiographer: William Ray, M.B.

Honorary Dentist: Alexander L. White.

These appointments are renewed from year to year, and no new ones will be made during the period of the war.

### Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

In future, no advertisements inviting applications from medical practitioners for positions in public institutions will be accepted unless the appointment is limited to medical practitioners who are ineligible for military service, or who have returned from military service. The term "ineligible for military service" is used to signify practitioners who are above military age, those who have offered their services and have not been accepted by the military authorities, or those who, for valid reasons, are incapable of applying for a commission in the Australian Army Medical Corps.

Winton Hospital, Queensland, Surgeon.

Royal Alexandra Hospital for Children, Camperdown, Temporary Relieving Ophthalmic Surgeon.

Department of Public Health, Brisbane, Assistant Bacteriologist and Pathologist.

### Medical Appointments.

#### IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
<b>VICTORIA.</b> (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
<b>QUEENSLAND.</b> (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United Friendly Society Institute. Townsville Friendly Societies' Medical Union. Cloncurry Hospital.
<b>SOUTH AUSTRALIA.</b> (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments in South Australia. Contract Practice, Appointments at Renmark.

Branch.	APPOINTMENTS.
<b>WESTERN AUSTRALIA.</b> (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
<b>NEW SOUTH WALES.</b> (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
<b>TASMANIA.</b> (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
<b>NEW ZEALAND: WELLINGTON DIVISION.</b> (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

### Diary for the Month.

- July 31.—Vic. Branch, B.M.A., Council.  
Aug. 2.—Q. Branch, B.M.A.  
Aug. 7.—Federal Committee of the British Medical Association in Australia (Sydney).  
Aug. 7.—Vic. Branch, B.M.A.  
Aug. 9.—S. Aust. Branch, B.M.A., Council.  
Aug. 9.—N.S.W. Branch, B.M.A., Clinical.  
Aug. 13.—Tas. Branch, B.M.A., Council and Branch.  
Aug. 13.—N.S.W. Branch, B.M.A., Ethics Committee.  
Aug. 14.—North Eastern Med. Assoc. (N.S.W.).  
Aug. 15.—Vic. Branch, B.M.A., Council.  
Aug. 15.—City Med. Assoc. (N.S.W.).  
Aug. 20.—N.S.W. Branch, B.M.A., Executive and Finance Committee.  
Aug. 21.—W. Aust. Branch, B.M.A.  
Aug. 23.—Q. Branch, B.M.A., Council.  
Aug. 27.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.  
Aug. 28.—Vic. Branch, B.M.A., Council.

#### EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.

The Honorary Librarian of the New South Wales Branch of the British Medical Association is anxious to complete the series of the *Lancet* at present in the Library of the Branch. The issues of January 4 and 25, March 14 and August 15, 1908, and January 9, 1909, are needed for this purpose. The Librarian will be grateful if any member who is able to present to the Library one or more of these numbers, will communicate with the Honorary Secretary of the Branch, Dr. R. H. Todd, B.M.A. Building, 30-34 Elizabeth Street, Sydney.